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**KANSAS FARMER.**

Established in 1863.

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E. B. COWGILL..... President  
J. B. McAFEE..... Vice President  
D. C. NELLIS..... Secretary and Treasurer

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H. A. HEATH..... Advertising Manager

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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 communications to

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

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**BLOCKS 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, Kansas.

The Kansas State Temperance Union will meet at Topeka, February 10 and 11. This will be a good time to come to Topeka and see what your Representatives and Senators are doing. The rum interests have their influences at work all of the time.

The KANSAS FARMER presents this week, almost complete, the papers read before the annual meeting of the State Board of Agriculture. This gives readers of this paper the advantage of the much valuable information contained in these papers in time to apply it to the coming season's work. Others than readers of the KANSAS FARMER will be a year behind them in obtaining these valuable suggestions.

Many measures are introduced in the Legislature because somebody so requests. Physicians have a standing grievance against the manufacturers and venders of proprietary medicines. Many of these medicines are prepared according to tried and proven prescriptions and are found useful, especially if the family lives remote from the doctor. But their use interferes with the doctor's business and the antipathy of the doctor is no freak of nature. Probably at the request of some physician, or body of physicians, Senator Gabriel has introduced in the Kansas Senate a bill which proposes to place practically prohibitory restrictions on the advertising of proprietary medicines. This bill probably will not and surely ought not to pass.

**CONSTITUTIONAL CONVENTION.**

A resolution providing for a Constitutional convention has been introduced in the Kansas Legislature. Should this resolution pass it would be necessary that the question of holding the convention be submitted to the people at the next general election. Should the vote of the people authorize the convention, it would be necessary to elect delegates who undertake the work of making a new constitution for the State. This new constitution would be submitted to the people for ratification or rejection.

There are several matters to be considered in connection with this question of making a new constitution. Among these is the matter of expense. Should the resolution pass both houses of the Legislature by the requisite two-thirds vote, the expense of printing and submission to the electors would be the first to be incurred. This would be small compared with the expense of the constitutional convention should one be called. The delegates to this convention would have to be paid salaries and expenses. If the present Legislature may be taken as an example, the convention would require several times as many servants, such as door-keepers, pages, ventilators, messengers, etc., as there shall be delegates. These would all be paid out of the State treasury. The printing bill of the convention would be something enormous. The submission of this new constitution to a vote of the people would call for another pull at the public treasury. If the new constitution should be rejected the expense would end here and we should have the same good old constitution under which Kansas has prospered to this date. But if a new constitution should be adopted

the expense above suggested, which has been conservatively estimated at \$500,000, would be but the beginning of expenses. The new constitution would have to be published; a new code of laws would have to be enacted to fit it; all these would have to be printed in statutes for all of the officers, from justice of the peace up. All this would be but the beginning of expense. Through the litigation of the years the old constitution has received its interpretation by the courts. A new constitution would necessarily receive a like expensive interpretation. True, the litigants would pay a part of this expense, but the man who thinks the cost of such expenditures does not finally come out of the productive industries—chiefly out of the farms of Kansas—deceives himself.

True, the holding of a constitutional convention would create many jobs for the job-hunters; and the adoption of a new constitution would create much work for lawyers, but the farmer or other producer of material wealth in Kansas does not want a new constitution.

What is the matter with the old constitution?

**DISCUSSION OF NEEDED LEGISLATION.**

Readers of the KANSAS FARMER are greatly interested in several subjects of legislation. Some have written their views. It may be interesting to know that each week the KANSAS FARMER is laid on the desk of every Senator and every Representative. They read it, too, for, whatever opinion is entertained of politicians, it is true that they are very anxious to take such action as is desired by their thoughtful constituents.

The invitation is, therefore, extended to our readers to write to this paper their views on such subjects of legislation as they are interested in. If these discussions become too voluminous to be published in full, the editor will present abstracts so that the influence of the writers shall go before the legislators.

Write plainly, but do not fear that a cramped handwriting, imperfect spelling, wrong punctuation, misplaced capitals, or awkward construction will appear in print. The editor's assistant will take care that what is written shall appear in proper form.

**ANTI-HORSE-THIEF ASSOCIATION.**

The Anti-Horse-Thief Association has been in existence for a quarter of a century in the West, and Kansas is at present the head center of this useful organization. The KANSAS FARMER has received a copy of the proceedings of the twenty-first annual meeting, held at Paola, Kans., last October. At present the National officers are located in this State. Fielding Scott, St. Paul, Kans., is president, and J. B. Culbertson, Sterling, Kans., is secretary-treasurer. The State officers are John W. Wall, president of the Kansas division, Parsons, Kans.; and G. J. McCarty, secretary, Valeda, Kans. The A. H. T. A. Weekly News, of St. Paul, Kans., is the State and National official paper.

During 1902 there were 92 new sub-orders added to the Kansas division, making a total of 331 active orders in this division. Last year this order recovered 48 out of 60 horses that were stolen from its membership, besides a great deal of other valuable property. In all, 101 thieves were captured, of which 78 were convicted, 24 sent to the penitentiary, 36 to jail, and 3 to the reformatory, and 8 are still awaiting trial. It is significant that the members of 179 sub-orders by reason of pro-

tection of the organization reported no loss whatever. The personnel of the membership consists mainly of stockmen and farmers and the order is of great benefit to all of the people of the West. The next State meeting will be held at Winfield, Kans., on the third Wednesday in October, 1903.

**A BULLETIN ON BALANCED RATIONS.**

The KANSAS FARMER has received advance copies of Kansas Experiment Station Bulletin No. 115, on the "Exact Calculation of Balanced Rations," by Prof. J. T. Willard, chemist and director of the Station. In this bulletin Professor Willard makes the plainest showing possible of his arithmetical method of calculating balanced rations. The method is based on the principles of alligation. The method is accurate and easily applied.

The bulletin contains standard tables in convenient form, but most valuable of all it contains a table of 2,100 balanced mixtures computed by Professor Willard's method. These tables should be in the hands of every feeder in Kansas and should be kept where they can be easily referred to.

Economical feeding—profitable feeding—will in the future depend upon the use of properly balanced rations. This bulletin gives balanced rations for all kinds of stock composed of all kinds of feeds.

Write to the experiment station at Manhattan and get a copy and keep that copy where it can be quickly found.

**NEEDED LEGISLATION FOR STOCKMEN.**

The KANSAS FARMER has received a number of communications from representative stockmen and breeders of the State setting forth the legitimate needs of that industry. We are unable, however, to give them until our next issue owing to the crowded condition of our columns this week.

The necessity for a State fair, an adequate appropriation for the World's Fair in 1904; an equitable tax law, which will not permit the commissioners of the several counties to strike a fatal blow at the improved stock industry, thereby placing a premium on the "plug, runt, and scrub," as well as numerous other matters of vital interest to the people who pay the bulk of the taxes will receive consideration from representative men well qualified to speak on these subjects.

Readers of the KANSAS FARMER who are sufficiently public-spirited to take an active interest in the affairs of State are asked to do their duty by promptly writing strong letters to every member of the Legislature with whom they are acquainted and urge the passage of such legislation as will promote the welfare of our State.

**ALFALFA AND FOXTAIL.**

EDITOR KANSAS FARMER:—Please inform me through the columns of your valuable paper, if it will hurt alfalfa (young or old) to burn the field over. My field of alfalfa is covered with rank growth of foxtail. If it will hurt the alfalfa to burn it over, tell me the best way to get rid of the grass. What do you think of disking?

NELLIE HAMILL.  
Grenola, Elk County.

The foxtail is no weed and doing no harm. You can kill much of the seed on the ground by burning the meadow over. Some have reported favorably on burning. If done before the alfalfa starts no injury seems to result.

Disking is the best that can be done  
(Continued on page 152.)

## Kansas State Board of Agriculture..

Thirty-first Annual Meeting, Held in the State House, January 14, 15, and 16, 1903. The Proceedings.

### Response to Address of Welcome.

EDWIN TAYLOR, PRESIDENT OF THE BOARD.

On behalf of the State Board of Agriculture, I thank you for the cordial greeting you have given us. In return, I bid you and all citizens who may be interested, a warm welcome to all our meetings and I invite you to participate in our deliberations.

There have been detractors of this board in the past who have professed to regard us as an aggregation of decayed office-seekers, and who have improved the occasion of our annual meetings to magnify their expense and to speak lightly of our purposes and results.

It is true that some members of the board have, from time to time, shown intermittent signs of political activity, but none of us have gone beyond the bounds of one of the dearest prerogatives of the Kansas man, which is, when an office stalks abroad to seize it, if some one else doesn't beat him to it. As for the cost we occasion, no seed-corn ever planted by the State of Kansas has yielded farther in excess of the scriptural maximum of one hundred fold than the planting which was made when the State Board of Agriculture was instituted. The machinery then devised and set in motion for gathering farm statistics and other data to be tabulated and published by the Secretary of the board has resulted in a continuous fund of information with respect to our doings and our standing such as has been possessed by no other State. The injunction, "Know thyself," is as imperative upon the community which aspires as upon the individual. And the reports issued, from time to time, under the authority of the board, upon a great variety of subjects, now covering the leading crops we raise, the principal breeds of our live stock, and the latest methods of farm procedure are commonly conceded to have been a positive force in pushing Kansas forward to the very front rank of agricultural commonwealths.

We have more than once had experience with governors who were skilled "agriculturists," as the word is sometimes used over in "Copeland County," but now we felicitate ourselves that we have in the gubernatorial chair, an actual, bona fide farmer. I trust I shall not seem to transgress the proprieties of the occasion if I take advantage of this opportunity to say to our fellow craftsman, the Governor, that while we have a deep interest in all our State educational institutions, and desire them to be furnished forth and enlarged upon with a generous hand, yet we have an especial affection for the Agricultural College at Manhattan. We love it, for one thing, because the main object of its teaching, broadly stated, relates to whatever may enlarge the effectiveness of the farm as a financial proposition and develop its attractiveness as a home. It will be your province, Governor Bailey, to appoint new regents for that institution. We respectfully submit that if the general principle of school management which puts the West Point Academy under the control of the War Department, and the Naval Academy under the Navy Department, and theological schools, the world over, under the care and nurture of the church—if that principle were applied in this case it would give a majority, at least, of our agricultural college control over into the hands of those who are in touch and sympathy with agriculture.

Kansas is now ready to make the second volume of her history. The first volume may be considered closed. It relates to pioneering and to preparation. It begins with the Santa Fe Trail and ends with ten thousand miles of railroad. That narrative recounts the accomplishment, within the brief span of one life-time, of a multitude of things which are the prerequisites of large performance by a State. They include the breaking up of the virgin soil; the establishment of roads and bridges; the erection of dwellings, of churches, school houses, factories, stores; the development of mines; the banding of the State with steel and wire; the installing, in short, of all that complicated equipment which is essential to the highest type of civilization. What a grand superstructure

the next generation should erect, and will erect, upon the foundation thus laid!

In the future the board will strive, as in the past it has striven, to be among the foremost of those who are helping to keep Kansas where Iron-quill has placed her in his rhymes, where she now stands and where she shall long remain.

"First in freedom, first in wheat."

### Secretary's Report.

A brief synopsis of the more important work done in the office of the board since our last annual meeting is as follows:

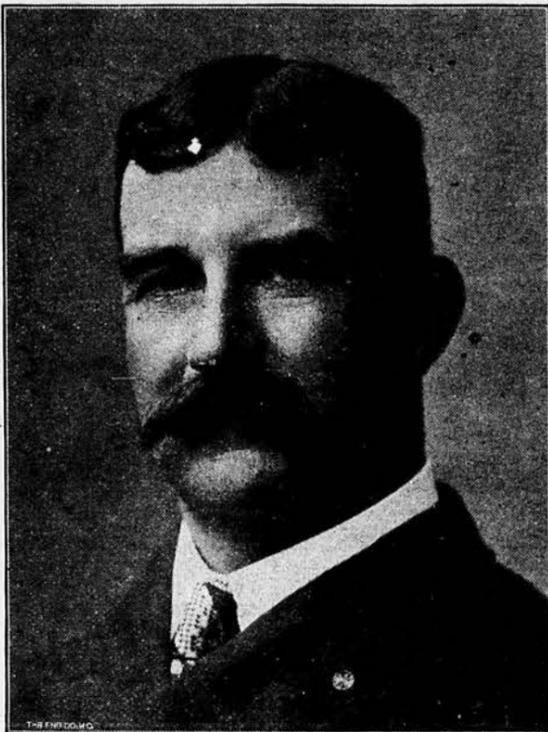
First, making the March quarterly report, an original and illustrated volume of 336 pages, entitled "Kansas Wheat-Growing," and intended to exploit the wheat and wheat-producing possibilities of Kansas, as superior to those elsewhere. This was justified by the fact that Kansas, while often ranking first in wheat-production and always among the leaders, had in 1901

he would advance any efforts for the speedy and effective extermination of this weed, as was done in a bulletin issued by the board in 1894, describing the Russian thistle and giving all the best suggestions available for its eradication.

Third, the September Quarterly, an illustrated volume of 189 pages, entitled "Polled Cattle," a companion report to "Shorthorn Cattle, and "Hereford Cattle," issued in 1901, being a presentation of the claims, merits and performances of the breeds of hornless cattle, by their friends of longest standing, of the old world and the new. These "friends" were so kindly appreciative of the efforts to advance their interests, as served by this volume, that each of the four American associations of Polled cattle-breeders in its recent annual meeting in Chicago, unanimously adopted resolutions, presented by members from other States, thanking the Kansas Board of Agriculture for its publication in behalf of the cattle which are "peaceable because polled, harmless because hornless."

Fourth, the December Quarterly, a pamphlet of 233 pages, devoted exclusively to Kansas agricultural, live-stock and population statistics, for the years 1901 and 1902, also much other interesting statistical information.

Fifth, the board's thirteenth biennial report, for the years 1901 and 1902, covering 1133 pages, with 242 illustrations, containing information upon the origin, history, characteristics, adapta-



J. H. CHURCHILL,

President Kansas State Board of Agriculture.

attained such a preeminence as to far surpass her closest competitors by an output measuring according to Uncle Sam's authority nearly 100 million bushels, the nearest recorded approach to this being likewise made by Kansas, with 82,488,000 bushels in 1900. This report also included observations, experiences and counsel of those longest and most largely familiar with the habits, behavior, production, marketing and milling of Kansas wheats, along with detailed statements of conclusions, practices, cost, etc. There was also in this volume a report on what was accomplished in 1901 in the new and promising sugar-beet industry in the western Arkansas valley counties, to encourage which the Legislature of that year provided a bounty of \$1 per ton on Kansas beets grown in 1901-02 containing not less than 12 per cent of sugar and actually used for sugar-making. Likewise a report on the methods pursued and the progress being made in the destruction of prairie-dogs and gophers, as provided for in Chapter 273, Session Laws, 1901. It also gave, carefully edited, the papers, addresses and discussions at the board's thirty-first annual meeting.

Second, the June quarterly, giving information upon the use made of the Russian thistle for hay and pasturage by farmers in northwestern Kansas, and its economic value. This was interesting mainly because unique. Your secretary then most emphatically disclaimed, as he now does, both for himself and the board, any intention to appear as encouraging or even countenancing these pernicious pests for any purpose whatsoever, but instead

bility, merits, performances, rearing and fattening of all the prominent breeds of beef cattle; wheat and wheat-growing in Kansas; the breeding, rearing, and fattening of various farm animals; the growing of alfalfa, and the culture and improvement of corn, besides giving the State's agricultural statistics for the biennial period, together with tables, statements, summaries, and diagrams showing the population, products, etc., and general development of the State. There is perhaps nowhere else available at any price in a single volume such a fund of information representing the best thought and highest authorities of two continents in modern times, known to your secretary, regarding cattle husbandry, as is contained in this—which is available to Kansans for the asking so soon as the present Legislature provides the requisite postage for its mailing.

Mistakes made in the conduct of the board's office are chargeable alone to the secretary and are not due to interference by the board or any of its members. No official was ever less interfered with or given more latitude for doing his work unhampered.

The State's printing committee has been extremely considerate of the board's interests, as has the executive council in allotting to the board the beautiful, commodious, comfortable and convenient permanent quarters furnished and equipped which its offices now occupy. This generous treatment is in keeping with the importance of the industry the board represents, and is a fitting recognition of an institution that has since its beginning



### In Olden Days

men were broken on the wheel, now they buy Electric Steel Wheels, and save money. They fit any wagon. Made with either staggered or straight spokes. Let us tell you how to make a low down wagon with any size wheel, any width tire. Catalog tells. It's free. Electric Wheel Co., Box 48, Quincy, Mo.

been a tremendous factor for weal in Kansas' progress, prosperity and citizenship, and which properly sustained will continue to steadily promote the State's development along right lines to the high destiny which must be hers.

F. D. COBURN.

### The Work of the United States Department of Agriculture in its Relation to the Development of the Middle West.

B. T. GALLOWAY, CHIEF OF THE BUREAU OF PLANT INDUSTRY, U. S. DEPARTMENT OF AGRICULTURE.

We are told that the center of agriculture and of agricultural growth and development has for the last fifty years, been moving steadily westward. For a time this movement was northerly, but more recently it has taken a turn and has moved southwest. Thus, if we consider all the farms in the country, big and little, the center, so far as numbers are concerned, will be about a hundred miles southeast of the city of St. Louis, in the State of Illinois. If we consider all the acres of land devoted to agriculture, the center of all these acres will be in Missouri, near Jefferson City. Taking all the wheat grown, the center of production is seventy miles west of Des Moines, Iowa; while, for corn, the center is near Springfield, Ill. For all cereals, the center is near Keokuk, Iowa. Now these are census figures and no doubt they are correct; but since the census was taken there must have been a change, for judging by the activity in agricultural matters which has been displayed in this part of the country lately, the center of all these things must be right here in Kansas. At any rate, if they are not here now, they are going to be here soon, as is shown by the fact that they were all headed this way when last reported. It appears, therefore, that in the development of agriculture the great Middle West has played a leading part; in fact, at the present time this magnificent section of country outranks all others in the variety and value of its agricultural products. By the Middle West is meant all that region included by the census in the north-central and south-central divisions, covering the States of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, Indian Territory, and Arkansas. The value of all farm property in this region is shown by the last census to be nearly fifteen billion dollars, or about two-thirds of the total value of all farm property in the country. So much, therefore, for the region of which we form a part, and with which we are chiefly concerned to-day, insofar as the work of the Department I have the honor to represent is concerned.

The Bureau of Animal Industry carries on investigations of contagious diseases of live stock, cares for all measures looking to the extirpation of such diseases, looks after the inspection of all import and export animals, supervises the inspection of all vessels for the transportation of export cattle, cares for the interstate movement of all cattle and inspects live stock and other products slaughtered for food consumption. It will be seen, therefore, that this Bureau has exceedingly important work. Its investigations have added millions to the wealth of the country, especially of the great Middle West, where animal husbandry is of such immense importance.

### PREVENTION OF TEXAS FEVER.

A still further striking example of the great work of the Bureau of Animal Industry is to be found in its efforts toward the prevention of Texas fever. The loss from this disease was much heavier than from pleuro pneumonia, but its ravages had become such a matter of course that little or no systematic attempt had been made to check it. The Bureau's first efforts

TO CURE A COLD IN ONE DAY. Take Laxative Bromo-Quinine Tablets. This signature *B.T. Galloway* on every box, 25c

were in the direction of defining the infected areas and adopting measures for the control of transportation of cattle in such a way that proper quarantine could be carried out. This work led to great beneficial results, but the most striking effects of the Bureau's efforts were not secured until the efficient scientists in charge demonstrated, conclusively, the cause of the disease and the methods of infection. Dr. Salmon, calling attention to this matter, says:

"At this period, having completed the survey of the permanently infected district, it was observed that this district corresponded almost exactly with the habitat of the tick (*Boophilus bovis*), which was almost invariably found to infest the cattle that were capable of transmitting the disease. Taking this coincidence, with the strong belief held by many cattlemen of experience, that the ticks had something to do with the production of this disease, it was determined to have this aspect of the question fully investigated. As a result of these investigations it was conclusively shown (1) that the disease was inoculable; (2) that the blood of diseased animals contained a microscopic protozoan parasite; (3) that ticks picked from Southern cattle and spread upon pastures were a means of communicating the infection." Thus the relation of the tick to the disease was shown, and furthermore, suggestions were obtained which were of great value in pointing out a way for the prevention of the malady. Largely through the efforts of the bureau and the valuable aid rendered by a number of States, methods of immunizing cattle have been adopted which have led to the highest practical results. Before this knowledge of the cause of the disease was obtained it was practically impossible to send high-grade cattle South without great loss. Ninety per cent was about the usual loss in such cases. As a result of the immunizing process now practiced, fully 90 per cent of such cattle can be sent South with perfect safety; that is, there is seldom more than a loss of 10 per cent of immunized stock. This work is revolutionizing the cattle industry of the West and Southwest, making it practicable to eliminate the inferior grade of animals and supplant them with the high-bred types so much more valuable for beef.

INSPECTION FOR EXPORT AND IMPORT.

Aside from the valuable work already indicated, the inspection investigations of the Bureau of Animal Industry brings millions of dollars to the country annually. There is a rigid inspection of all animals for export shipment which acts beneficially in keeping our markets open to the shipment of live stock. There are the inspection and quarantine of all import animals, which removes the possibility of bringing into the country dangerous or contagious diseases. There is the inspection of all vessels that carry export cattle, and then there is the general inspection of animals and other products, not only for export shipment, but those which are the subjects of interstate commerce and for other purposes. Few realize the magnitude of this work, requiring, as it does, a small army of careful men to keep it going all the time. During the year 1902 there were, in round numbers, fifty-nine million ante-mortem inspections and thirty-eight million post-mortem inspections. The cost of this work has been annually decreased, and now represents a very insignificant figure when compared to the great value of the animals and animal products sent abroad, amounting to nearly two hundred and forty-five million dollars for the year ended June 30, 1902.

The microscopic inspection of pork forms a part of this great work. Owing to prohibitive laws passed in Germany and France, the American pork trade with these countries was practically destroyed. Before this time we had been sending from one hundred to one hundred and twenty-five million pounds of pork, each year, to France and Germany; but the prohibitive measures adopted on the ground of the presence of trichinae, as already indicated, practically killed the industry. In order to build up this trade again, a systematic effort was begun by the Bureau of Animal Industry in the rigid inspection of all pork slaughtered for export and other trade. Slowly the foreign trade was again developed, and by 1899 there were shipped out of the country nearly one hundred and ten million pounds, all of which had been rigorously inspected. The past year, ended June 30, 1902, the Bureau of Animal Industry inspected something more than thirty-three million pounds of pork for export shipment, most of which was drawn from the Middle

West. It is safe to say that the greater part of this enormous trade is due to the scientific and rigid inspection system which has been put in operation by the bureau, and which places our important products on such a footing that they can not be refused by any country on the ground of being injurious to health. Aside from the important work which has already been briefly described, the bureau is conducting many other investigations of great practical value. Its work on dairy products might be mentioned in this connection, and also its important researches on new animal diseases and methods of controlling the same. Important results have been secured in the matter of controlling "blackleg" by the use of vaccine, and during the past year more than a million and a half doses of this material were distributed, thereby saving to stock-raisers many thousand head of cattle and large sums of money.

BUREAU OF PLANT INDUSTRY.

In its organization, the Bureau of Plant Industry handles its work by problems, and whenever necessary it draws on men trained in different lines to solve these problems. Some of the most important results of this bureau have been accomplished through its work on the diseases of agricultural crops and their treatment. The corn, wheat and oats crops of this great section of country annually suffer a loss from one class of diseases alone, viz., the smuts, of from eight to twelve million dollars. The work of the department, aided by the efficient efforts of the State experiment stations, has undoubtedly greatly decreased the damage due to these diseases in the past few years. Many of you are familiar with the very valuable work inaugurated in this State at the State Agricultural College a few years ago in the treatment of smuts. Prof. Kellerman and Mr. Swingle, who were both connected with the college at that time, did valuable service in this connection, and the efforts they then put on foot were enlarged by other States and by the department, resulting, as already indicated, in the saving of a considerable percentage of the loss. It is fair to state that the saving to the oat-crop alone, due to the practices now followed by the farmers, which were set on foot by the department and the stations, amounts annually to two million dollars in the middle-west States, where oats are extensively grown. We can not at this time go into further details concerning this work; but will repeat what has been stated before in reference to these matters, that the department is always glad to furnish full information on any line of work in which agriculturists and horticulturists are directly interested. Our publications will gladly be sent to any one on application, especially the farmers' bulletins, which are particularly designed to give specific instructions on many matters pertaining to the advancement of agriculture.

Passing briefly to some other lines of work carried on by the bureau, we may refer to the investigations being made in the matter of the improvement of crops by breeding and selection, and the introduction of new varieties from foreign countries. Work of this nature has been conducted with corn, wheat, oats and other cereals. In the case of corn, special efforts have been put forth in the matter of producing varieties for particular purposes, such as corn for the production of oil, corn for hominy, corn containing a higher protein content, thereby making it a better balanced food. All of these matters of breeding and selection can be accomplished by careful attention to the details of the work.

SEED SELECTION.

Another line of work is in the direction of a more careful study of seed selection. Experiments which have been conducted during the past two years have shown that the yield of corn per acre can be increased several bushels by careful attention to the selection of seed. An interesting paper on this subject was presented, I believe, at the last meeting of this board by Prof. Shamel, of Illinois. Our work in this field has extended over a number of States, and has shown that great

benefit will result from a persistent effort in this direction. The most promising work, however, in corn, will undoubtedly result from breeding, pure and simple; for the opportunities afforded in this direction are greater than where simple selection alone is followed.

Most of you are familiar, probably, with the efforts of the department in the matter of the introduction of macaroni wheats. These wheats have been known for years, but for one reason or another they have not attained the prominence they deserve. It has been shown that these wheats may be successfully grown over a large area of our western country, where the rainfall is too meager to give the best results with other types. As a result of the department's work in this field, there were grown the past season between one million and a half and two million bushels of macaroni wheat, and there have already been established in some of the wheat buying centers regular grades for the crop. Aside from the fact that macaroni wheat is valuable for the purpose of macaroni manufacture, there will evidently be a large demand for it abroad, as has been pointed out in one of our recent publications by Consul Skinner of France. We import annually from Europe about fifteen million pounds of macaroni made from this type of wheat. We can not only grow all of the wheat to meet this demand but we can produce enough to supply the export trade, which is bound to develop as soon as it is known that the supply will be forthcoming. A number of American establishments for the manufacture of macaroni from American-grown macaroni wheats have been started, and it is believed by those conversant with the growth of the industry that this is but the beginning of a much larger development. Attention should be called also to the fact that this wheat has a valuable nutritive ratio, and if the areas suited to its culture are planted, and a large production results, the wheat would be of great value for stock food.

Another matter of interest to this section of the country and concerning wheats, is the effort being made by the department to extend westward and northward the winter wheat areas through the introduction of more hardy and prolific varieties. Kansas now occupies the foremost ranks as a wheat-producing State, and much of her success is due to the fact that her farmers have gradually replaced the soft wheats formerly grown for the hard winter wheats from Russia. The department has tested a large number of recent introductions in the way of hard winter wheats secured from different parts of the world, especially Russia, and has been recommending on a small scale some of these for the past two years. Four of five of these, obtained in east and south Russia, have proved to be more hardy than any varieties now grown in this country, and will admit of the extension of the winter wheat area several hundred miles further north and a considerable distance west of its present safe limit.

OATS AND MILLET.

Among other introductions which may be of interest in this connection is the so-called Swedish select oat. This variety of oat is particularly adapted to the northern sections of the great plains area, especially from Montana to Wisconsin. In Montana it has proved to be the best yielding oat ever tried.

There has also been introduced and disseminated a valuable cereal known as proso, or broom-corn millet. Five different varieties of this cereal have been experimented with in this region. At least three of these varieties have proved to be very resistant to drouth, and furnish a food for stock over a large area where it is difficult to grow much stock food of any kind. These varieties are the red Orenburg, the red Voronezh, and the black Voronezh. The latter has proved to be particularly resistant to drouth, and the red variety is reported to be the quickest maturing millet in western South Dakota, having matured in fifty days from seeding. The test of these varieties is not yet complete, but they will doubtless prove valuable in western Kansas. Another new grain is emmer, about which the department has recently published a bulletin. This grain is valuable for the dry sections of the western country, and is destined to be a most important crop for stock-feed over a large portion of the drier areas of the West.

FORAGE CROPS FOR SOIL-NUTURE.

In passing, we must also briefly refer to the efforts being made in the matter of improving the forage conditions in this great section of the country. There

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A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

is urgent need for the improvement of our forage crops, and efforts are being made to extend the present area for alfalfa growing. New introductions in the way of alfalfas better adapted to the eastern portion of the United States and for the northern part of the United States, are being made. One of the agricultural explorers of the bureau was the past year sent to southern Russia and other countries, for the purpose of securing these crops, and we are expecting a shipment of them at an early date. Over a wide extent of the Middle West there is felt the urgent need for an annual forage crop, particularly a legume which would serve to enrich the soil by the gathering of nitrogen, and would also be useful as a food for stock. Neither the cowpea nor the soy-bean exactly meets the requirements of this case, and efforts are now on foot to secure some crop which will be suitable for the purpose mentioned, either by breeding or by a search in foreign countries for something that will meet our wants. Possibly in China, where the leguminous crops, such as beans, have been grown for centuries, something may be found; and it is planned to send some one to this region for the purpose of seeing what can be secured in the way of crops of this nature.

SOIL SURVEYS.

The Bureau of Soils is the next important branch of the department with which we are concerned, and it is also one of the newer ones, having been in existence a little more than eight or ten years. It is only within the last two years that the division of soils was organized into a bureau, and the scope of its work was thereby greatly enlarged. The Bureau of Soils is concerned primarily with the investigation, survey and mapping of soils, with particular reference to agricultural conditions. The investigation of the cause and prevention of the rise of alkali in soils, and the drainage and reclamation of soils that have become injured through the presence of alkali, are matters of great interest to certain portions of the west.

The necessity and value of a thorough knowledge of the adaptation of soils to certain crops have long been recognized, but little or no systematic effort was made to develop this important line of work until it was begun by this bureau a few years ago. Soils vary greatly in their physical qualities, and upon the physical conditions of the soil depend, in many cases, the success or failure of crops. No more striking example of this is to be found than in the work which the bureau has done in establishing the Sumatra tobacco industry in the East. A soil survey of certain portions of eastern United States developed the fact that conditions were present, so far as the soil was concerned, that would make it practicable to grow the finer grades of Sumatra tobacco, of which five or six million dollars' worth are imported annually. Climatic conditions, however, were not wholly favorable, but this difficulty was overcome by the use of cheese-cloth tents. With the proper soil conditions and the cheese-cloth tents, there is now grown a type of tobacco fully as valuable as the Sumatra leaf, and bringing equally as high a price. The same class of work is being



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Genuine stamped C.C.C. Never sold in bulk.  
Beware of the dealer who tries to sell "something just as good."

conducted at a number of points in the Middle West, the idea being to build up new industries and to show the important relation of such industries to a thorough knowledge of soil and climatic conditions.

During the past year the bureau of soils has mapped something over nine million acres of soil, the work being carried on in twenty-five States and Territories and on the Island of Porto Rico. Nearly four hundred and sixty-one square miles have been surveyed in Kansas, in the vicinity of Wichita. It is expected that this would be a generally uniform region, but nine different soil-types are encountered, each with distinct properties and adapted more or less to different crops, or requiring different methods of cultivation.

SOIL MANAGEMENT.

In connection with the soil surveys, and very closely association with them, the Bureau of Soils is concerned with matters pertaining to the best methods of soil management. The chief of the Bureau of Soils, Prof. Milton Whitney, says that during the past year exceedingly delicate methods have been devised for the analyses of soils in the field. These methods are so sensitive that the amounts of nitrates, phosphates, sulphates and the like which may be present, as indicated by water solutions, can be determined to within four or five pounds per acre, one foot deep. With these methods it is possi-

tics have generally the greater importance in determining the kind of crop adapted to the soil. It will be seen that these important fundamental principles which are being worked out and developed by the Bureau of Soils have a far reaching value, and will at an early day enable us to more intelligently give information in regard to the needs of various types of soils than has been possible in the past.

I should like to be able to give you, in detail, some facts in regard to the other branches of the department, but I have already trespassed on your time, and will only briefly refer, in a general way, to some of the more important work of the remaining offices to which reference has already been made.

INJURIOUS INSECTS.

The Bureau of Chemistry is engaged in important investigations on chemical subjects, and then there is the important division of entomology, which studies the injurious insects of the country, and points out methods of preventing them. The division of entomology is one of the oldest divisions of the department and has long been recognized as doing exceedingly important work. The pioneer in this great work laid the foundation for his valuable services in the Middle West—I refer to Dr. C. V. Riley, who was for ten years entomologist of the State of Missouri, and in recognition of his services there was called to Washington, where he aided

of the work of the department, the State agricultural experiment stations, boards of agriculture, and other similar organizations. With the vast amount of literature that is being sent out every year, and with the striking experiments that are being carried on in many different parts of the country, the American farmer is rapidly being educated out of his conservatism. Since the dawn of history the pursuit of agriculture has been a conservative one, and in the old countries we see this strikingly illustrated by a study of the conditions we find among the class of men who follow the plow. Fortunately, in America, we are not permitting the building up of any such class of people. The American is coming more and more to realize that to keep abreast of the times he must be familiar with everything that science is doing to advance his cause. Such being the case, we can truthfully say that the time will never come when in this great country of ours, we shall have a "Man with the hoe." On the contrary, our farmers must be leaders in advanced thought; and they will be—in proportion to their recognition of the boundless possibilities which nature has lavished upon us.

The Grange—Its Past and Possibilities.  
E. W. WESTGATE, MASTER KANSAS STATE GRANGE.

The Order of Patrons of Husbandry originated in the agricultural depart-

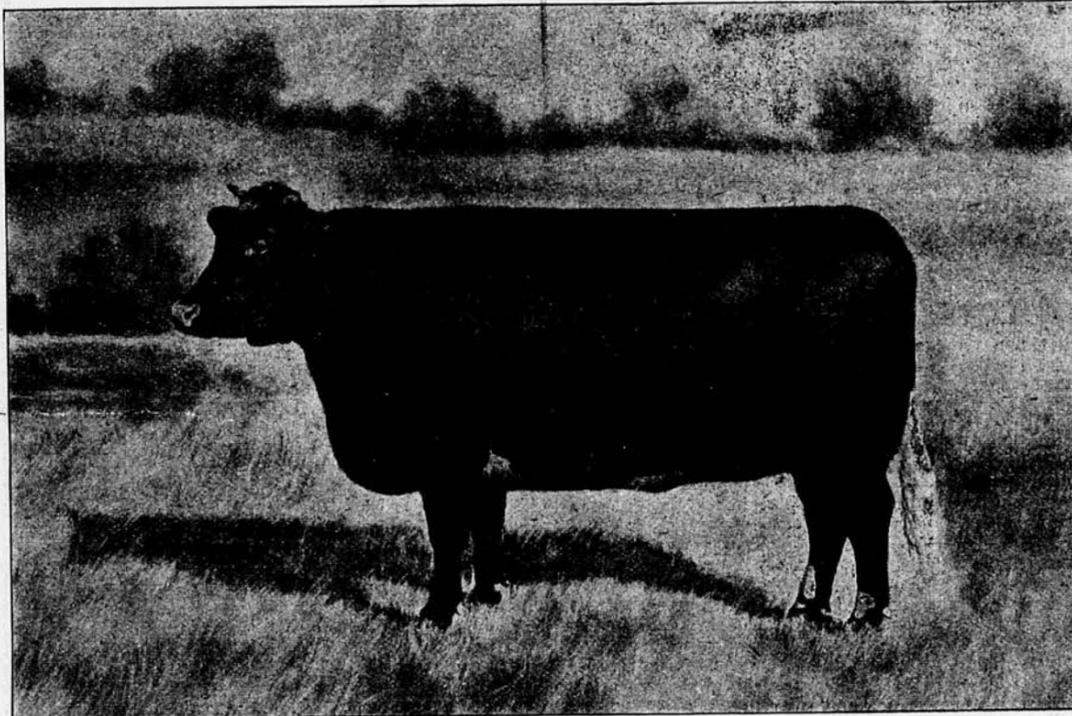


Why don't you get a Horseshoe Brand Wringer?

It will lighten your day's work  
Every wringer is warranted from one to five years. The rolls are made of Para Rubber. They wring dry, last long, and will not break buttons. Our name and trade-mark is on every wringer and roll.

\$1.00 Worth of Fun, 5c.

Send stamps or nickel for "Surprise Toy." It has amused thousands.  
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PEACH, VOL. 50.

Lot 29 in the public sale of Grassland Shorthorns by T. J. Wornall & Son, at Kansas City, February 10, 1903. This heifer is a "Peach" in name and fact. She was senior yearling in this year's show-herd, and was quite a factor in the winnings of this season. She was 3d at Sedalia, 3d at Des Moines, 2d at Hamline, 1st at Royal, 2d at Chicago. She is due to calve to "Conquerer" in April, having settled to first service. She would make quite an addition to any herd and will make one of the strong, 2-year-olds this year.

ble to detect throughout the year, fertilizers which were applied in the spring, and to trace the movement of these fertilizers from the place where they were applied down through the different depths of soil. It has been found possible to show noticeable differences in the chemical composition of the soil in the same field, in some parts of which the crops are growing well and in other parts of which they are poorly developed. It appears that the time has arrived—looked forward to with such interest by scientists and practical men alike—when an analysis will show the need of any particular soil for certain fertilizers. It is further stated that the results of this work have made it practicable to look upon soil moisture as a great nutritive solution existing over the surface of the earth, the composition of which is everywhere approximately the same. The early truck soil of the Atlantic coast may be deficient in plant-food and may require fertilizers for the best development of the crop; but even with such an application as would make the soils rich in plant-food as those of the great Middle West, these light truck-soils could not economically be made to produce as large corn-crops as the prairie-soils. The difference in the agricultural value of these different types appears to depend not so much upon the chemical composition as upon the physical properties of the soils, and especially upon their relation to moisture. In other words, the chemical characteristics of the soil influence the yield of crops, while the physical characteris-

in building up this work in the department. It has been estimated that the loss from destructive insects in this country alone will aggregate between \$250,000,000 and \$300,000,000 annually; and it has been further estimated that in all probability this loss would be \$100,000,000 more annually if it were not for the efficient services of the entomologists in the very important educational work they are performing every year in this field. The economic phases of the entomological work are carried on in several ways; the life histories of insects are studied, and through these studies suggestions for treatment or prevention are carried on. This treatment or prevention may be in the nature of the application of insecticides or preparations which will kill the insects direct, or it may be in the nature of pointing out methods of prevention by varying the ways a particular crop is grown, or by the substitution of other crops for those which are affected. Then again, remedial measures are secured by the introduction of predaceous insects, or insects which destroy the ones which are injurious to crops. Many specific examples of the great value of the work done by the department in these particular fields could be pointed out, but the time is so short that I shall not attempt to enter upon any of them now. I wish now to close my remarks by calling attention to one very important feature of the department's work which is seldom given the consideration it deserves. I refer especially to the gradual cumulative educational effect

ment at Washington, and was established for the primary objects of protecting and advancing the interests of the agriculturists and restoring kindly feelings among the people of different sections of our country in the years immediately following the Civil War. In December, 1867, Mr. O. H. Kelly and Mr. Wm. Saunders, clerks of the agricultural department, with five others organized the National Grange; but the permanent organization as a delegate body was not perfected until January, 1873, when nine States were represented by the masters of the respective State granges, and their wives. From the first, women were admitted to full membership, eligible to any office in the order. At this meeting the following declaration of purposes" was unanimously adopted: "To reduce our expenses, both individual and corporate. To buy less and produce more, in order to make our farms self-sustaining. To diversify our crops, and crop no more than we can cultivate. To condense the weight of our exports, selling less in the bushel and more on hoof and in fleece; less in lint, and more in warp and woof. To systematize our work, and calculate intelligently on probabilities." "We shall constantly strive to secure entire harmony, good will, vital brotherhood among ourselves, and to make our order perpetual. We shall earnestly endeavor to suppress personal, local, sectional, and national prejudices, all unhealthy rivalry, all selfish ambition. Faithful adherence to these principles

will insure our mental, moral, social, and material advancement."

"Hence we must dispense with a surplus of middle men, not that we are unfriendly to them, but we do not need them. Their surplus and their exactions diminish our profits."

"We shall, therefore, advocate for every State the increase in every practical way, of all facilities for transporting cheaply to the seaboard, or between home producers and consumers, all the productions of our country. We adopt it as our fixed purpose to 'open out the channels in nature's great arteries, that the life-blood of commerce may flow freely.'"

"It is right for every member to do all in his power legitimately to influence for good the action of any political party to which he belongs. It is his duty to do all he can in his own party to put down bribery, corruption, and trickery; to see that none but competent, faithful, and honest men, who will unflinchingly stand by our interests, are nominated for all positions of trust; and to have carried out the principle which should always characterize every patron, that THE OFFICE SHOULD SEEK THE MAN, AND NOT THE MAN THE OFFICE."

"We acknowledge the broad principle that difference of opinion is no crime, and hold that 'progress towards truth is made by difference of opinion,' while 'the fault lies in bitterness of controversy.'"

"We desire a proper equality, equity, and fairness; protection for the weak, restraint upon the strong, in short, justly distributed burdens and justly distributed power. These are American ideas, the very essence of American independence, and to advocate to the contrary is unworthy of the sons and daughters of the American republic."

"We cherish the belief that sectionalism is, and of a right should be, dead and buried with the past. Our work is for the present and future. In our agricultural brotherhood and its purposes, we shall recognize no North, no South, no East, no West."

OUTSIDE COOPERATION.

6. Our being peculiarly a farmers' institution, we can not admit all to our ranks.

Many are excluded by the nature of our organization (not because they are professional men, or artisans, or laborers, but because they have not a sufficient direct interest in tilling the soil, or may have some interest in conflict with our purposes. But we appeal to all good citizens for their cordial cooperation to assist in our efforts towards reform, that we may eventually remove from our midst the last vestige of tyranny and corruption.

We hail the general desire for fraternal harmony, equitable compromises, and earnest cooperation, as an omen of our future success.

7. It shall be an abiding principle with us to relieve any of our oppressed and suffering brotherhood by any means at our command.

Of the order of Patrons of Husbandry there are four working subdivisions, each being called a Grange.

Of these the highest is the National Grange composed of the masters of the several State Granges and their wives

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or husbands. This is the legislative body of the order and establishes its policy and defines its work before the Congress and the executive department at Washington.

The State Granges are composed of delegates from the subordinate and Pomona granges and are the legislative bodies of their respective States.

The county or Pomona granges consisting of representatives of the subordinate granges have charge of the business operations of the order in their respective counties.

The last and in some respects the most important of all is the subordinate grange, one or more of which may be located in every township. It is in these latter that the really most valuable work of the order is performed. Husband and wife, sons and daughters of the whole community meeting from one to four times each month, with social and literary programs including every subject of interest to the home, the farm or the public welfare, positively excluding all sectarian or partisan questions, has exerted an influence in elevating the character, alleviating the isolation of farm life, learning the causes of conditions of which we complain, and in discovering means for their removal, in rendering their members better equipped intellectually for the contests in civil and business life, in determining their rights and the means of maintaining them, in developing a nobler manhood and womanhood which dollars can not measure and the future alone can reveal.

The influence of the subordinate grange is observed by those whose duties bring them in contact with people of different communities.

Before his connection with the Grange, Professor Cottrell, of our own Agricultural College, said to me that in conducting farmers' institutes in different portions of the State he could tell without inquiry whether or not there was a grange in the neighborhood by the ease and intelligence with which these meetings were carried out. Dr. Edwards, of the Michigan Agricultural College, says: "Wherever a grange exists the ambition of the farmer has changed from the cultivation of products to the cultivation of manhood. What the world needs to-day is not so much the material things as a deeper hold on the inner meaning of life. The Grange is engaged in furnishing manhood and womanhood and here the agricultural college joins hands with the Grange."

What is true of the college and the Grange in Michigan is true of the same in Kansas. For several years they have joined hands and voices in extending the influence of both institutions and the largest audiences met by the faculty of the college are gathered under the auspices of the Grange.

Several years ago the Governor of Michigan dismissed from the Board of Agriculture the only farmer thereon. A delegation of farmers was sent to him to learn his reason for the action. His reply was, "Because he is a farmer and any man who has worked on the farm for fifteen years is unfitted for any public office." One member of that committee was that Governor's successor not many steps removed, and Governor Luce and his two brother farmers rank among the best Governors Michigan has ever had, and the fourth, the present master of the Michigan State Grange, is in line for the position at the next election.

Last week, farmer N. J. Bachelder, the Master of the New Hampshire State Grange and the lecturer of the National Grange, was inaugurated Governor of the old Granite State. Governor Bachelder was nominated by acclamation and triumphantly elected, not because he was a farmer or a Patron of Husbandry but because "A man's a man for a' that" and no heartier words of approval can come from any source than appeared at the time of the announcement of his candidacy in the columns of the most influential paper published in the State by his political opponents. The church, the little red schoolhouse, and the Grange hall are the three most powerful agents of civilization in our country to-day; and as soon as the latter becomes as numerous in every State as they are now in Maine, New Hampshire, Michigan and other Eastern States, the sooner will come the time "when farmers, organized and understanding the laws they need to give them an equal chance of life, will command respect and attention; and in legislation, State and National, the farmer will be represented by those who understand the wants and needs of agriculture, and will have men in position to see that just and equitable laws are enacted and enforced; when class distinctions will disappear and men and women be honored and respected for their men-

tal and moral worth and not for the dollars they control."

This is a part of the work of the subordinate grange, each one thus far working alone in its limited sphere of action, realizing that self-improvement depends upon individual efforts.

But in this age of cooperation and combination, when the followers of every other calling or occupation are organized under the name of unions, corporations, trusts, and combines, we should be indeed dull of comprehension did we not realize that in union there is strength.

To secure our rights through the courts under the laws we now have, or to change in any way the statutes of State and Nation, combined effort is necessary, and this furnishes abundant work for the State and National granges. The control of the trusts is today a question of National interest and importance. It should not be forgotten that the Grange several years ago won the first victory in the control or regulation of corporations. Chief Justice Waite of the United States Supreme Court in his decision sustaining the "Granger Railroad laws" said, "It is a principle too long forgotten and one that should never again be lost sight of, 'that the creature is subject to its Creator,' that the people who grant the charter can also control it." On this Grange decision out of which has already come our National inter-state commerce commission, must

be enumerated before the Kansas State Board of Agriculture. You realize and appreciate them as well as the master of the State Grange. Free mail delivery is of more value to the man on the farm than to the man in town. By conception, by birth, by watchful care and defense in its childhood troubles it is the child of the Grange. Our legislative committee first urged it upon the attention of the Post-Office Department. The same committee has repeatedly been requested to determine the appropriation to be recommended to the consideration of Congress and at one time when sentence of death had been pronounced upon it by the United States Senate by refusing to make any appropriation for the continuation of the service, its life was saved by direct and energetic intercession with leading Senators, and now through a gradual increase of appropriations from \$10,000 to over \$12,000,000 a year it has passed the dangerous years of youth and has been pronounced by President Roosevelt to be a permanent protegee of the Government. This accomplishment alone is worth all the efforts of the Grange for the last thirty years.

ELECTION OF UNITED STATES SENATORS BY THE PEOPLE.

The Grange has been earnestly at work to secure the election of United States Senators by direct vote of the people, and do we need any stronger argument for the justice of its demand

I don't make all the lamp chimneys; no trouble with mine.

MACBETH.

My name on every one.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

his associates, and our opposition will continue until it is no longer needed or will be of no avail.

I have not time to enumerate all the subjects upon which the National Grange is at work for the benefit of the masses or the protection of the many against the frauds, impositions and encroachments of the few.



BEAUTIES FROM THE SUNFLOWER STATE.

A string of Percheron winners from F. H. Schrepel's Cheyenne Valley Stock Farm, Ellinwood, Kans.

be based the laws we must have to regulate and control the trusts.

The National Grange through its legislative committee after years of effort secured the elevation of the head of the Agricultural Department at Washington to a seat in the President's cabinet and with one exception every Secretary of Agriculture has been a member of the Patrons of Husbandry. Secretary Wilson was an active member of the order in Iowa, and his assistant secretary is a past master of the National Grange, and this Department is proving itself the strong right arm of the farmer in the councils of the Nation. The assistant Secretary of Agriculture, the Hon. J. H. Brigham, before the National Grange at Lansing, Mich., last November said: "The Department is ever alert in matters of legislation. Every bill drawn which has its effect upon the agricultural interests of the country comes to the Department of Agriculture and is examined for the purpose of protecting in every way the interest of the farmer. I assure you of the full and hearty sympathy of the Department with the Grange and the movement for which it stands. In its truest sense it is the farmer in Government, caring for his own interests and working for the betterment of any condition which will raise the standard of rural life and thought." Mr. Brigham requested that provision be made for at least two visits of the Grange legislative committee to the Department each year.

FREE RURAL MAIL DELIVERY.

The blessings of the free delivery of mail to the rural population need not

then the present and prospective struggle for senatorial honors before the Legislature of the State of Kansas? In this work we have but few opponents but among those few are the men who cast the votes which thwart the will of the people, namely, United States Senators and those who hope to become such.

POSTAL SAVINGS BANKS.

Absolute security and a small interest instead of a doubtful security and no interest for investment of small sums would be a great benefit to the young and to others with small surplus funds, by encouraging habits of thrift and economy and hence we are in favor of Postal Savings Banks and direct our legislative committee to urge their establishment.

Cheap transportation is beneficial to both producer and consumer and hence we encourage the immediate construction of ship canals connecting the Great Lakes with the Atlantic Ocean and the Mississippi River.

SUBSIDIES.

The question of protection of any industry through the operation of the tariff laws is a partisan political one and hence can not be discussed in our meetings, but we are uncompromisingly opposed to the subsidizing of any business by appropriations from the public treasury and hence are vigorously fighting the ship subsidy scheme for drawing untold millions from the United States Treasury for the benefit of J. Pierpont Morgan and

STATE WORK.

We urge war upon no business or profession but consider their doors open to all who may choose to enter. We thought the cost of fire insurance as charged by the State companies was unnecessarily high. We established the Patrons' Fire and Tornado Association in 1889. We commenced with \$50,000 of risks and have steadily increased until now we have policies in force amounting to over \$2,000,000. For the past year the cost of a \$1,000 policy of average grade of risk was \$1.18. The average cost for the thirteen years has been \$2.03. Every loss has been satisfactorily settled without resort to the courts or to arbitration. At issuance of a policy we pay a premium of less than one-half the cost in a stock company. When the treasury is exhausted an assessment is made sufficiently large to meet all expenses and furnish a small surplus fund. No assessment has been made for the last three years and there is now in the treasury nearly 60 per cent more money than was taken out last year to meet all losses and running expenses. Insurance in this company is limited to members of our order and is purely mutual.

COOPERATION.

At the foundation of our order too many joined it with expectation of great immediate financial results. They failed to appreciate the more important objects of our organization and gave all their attention to cooperative schemes. Patents were bought and

Chicago is the place to buy your supplies for least money; also quickest shipments.

# Buy at Wholesale Prices

We Sell better goods at lower prices and make quicker shipments than any other firm.

and save 15 to 40 per cent on everything you use. It can be done. Over 375,000 wide-awake, careful buyers sent us their orders last month and got high-grade, honest merchandise—the kind it pays to buy—at a big saving over usual prices. They were the people who knew the value of a dollar saved. You, too, can do it. A FEW SPECIMEN VALUES are here shown, selected from our 1100-page catalogue, which contains pictures and prices on 70,000 articles of everyday use.



### MORRIS CHAIR

Made of golden oak or in mahogany or weathered oak finish. Massive, heavy carved and well-finished frame; reversible cushions covered with imported figured velour plush; adjustable back. An exceedingly comfortable chair.

Retailers charge \$8.00 to \$10.00. Order No. R72. Our Price . . . . **\$4.50**



### KITCHEN TABLE

A very handy time, space and labor saver; hardwood; top white and frame finished in the golden color. 2 drawers, 2 bins holding 50 lbs. of flour or sugar each, and 2 baking or meat boards. 26x46 in. Weight, 90 lbs. One of the greatest genuine bargains ever offered. Dealers ask \$4.50 to \$5.50. Order No. R491. Our Price . . . . **\$2.95**



### LACE CURTAINS

Made in imitation of and look like imported, and high-priced goods. Center has beautiful detached design, handsome ribbon and floral border, and edge woven to have the effect of the real ruffle. 48 1/2 inches wide; 4 yards long. Exceptional value for the price. Order Number P122 . . . . . **\$1.34**



### SEWING Machine

Our very latest drop-head style. Strongly made, well finished in solid oak, does nice work, is guaranteed for 5 years and is a most wonderful machine for the price. This is positively the lowest price that any warranted machine is being sold for. Order No. L4350. Price, **\$8.45**

We have everything in all grades, from the cheapest that's good to the best that's made. Write for catalogue at once, enclosing 15 cents to help pay the postage.

Our 2 Million Customers are the best endorsement of our goods, prices and methods.

## Montgomery Ward & Co., Michigan Ave. & Madison Street, Chicago. 18

farm implements manufactured which soon became unsaleable because of improvement in the machines made by those who knew their business and how to manage it. Stores were established by the score and managed by those who had never learned the first principles of mercantile life. The inevitable result soon followed and with the failure of their financial venture their faith in the order departed and more than 90 per cent of the subordinate granges in Kansas became extinct. But to this almost universal wreckage of cooperative enterprises there was one notable exception. The Johnson County Cooperative Association never even halted in its career for success. At its first organization it secured as manager a young man with experience in mercantile pursuits, of great business and executive ability, of unquestioned integrity and iron will. It commenced business with \$800 of capital. In the purchase of their goods they did not ask for credit, and they sold for spot cash or its equivalent, and now, after twenty-six years of successful effort, with the same manager and a conservative board of directors they have won for themselves not merely a State and National reputation but have commanded recognition in foreign lands. It has a paid up capital of \$100,000 with a \$28,000 surplus as guarantee of its financial stability. It has always paid 8 per cent or 10 per cent interest upon the capital stock and the surplus net profits are returned to its patrons in proportion to the amount of their purchases. It has paid as interest on capital \$141,908.13 and rebates to purchasers \$233,803.59. I am told by one of the directors that all indebtedness of the company is cancelled every Monday morning. Encouraged by the success of this store similar smaller but successful ones have been established at Overbrook, Cadmus, and Spring Hill. In addition to their mercantile success the patrons of Johnson County also own a bank which ranks among the first in the State.

Why is the order of Patrons of Husbandry still alive and progressing, gaining strength year by year, especially in the eastern part of our country when other organizations for similar purposes have failed or are only local in importance? In the first place this is an organization of farmers, for farmers, by farmers, and for all farmers from ocean to ocean and the Great Lakes to the Gulf. Others are for particular branches of farm life and affect but few outside their own membership, or are merely local, without connection with any others and thus fail to accomplish their objects through want of concentrated effort.

Ours is a thoroughly organized system, embracing township, county, State and National subdivisions, while others, for example the Farmers' National Coupers, are national only without foundation on the farm, representing nobody, responsible to nobody. Its work is for the farmer but it is in no way under his control. Its members are appointed by the Governor of the several States and may be farmers, and sometimes some of them are. I am glad to say it supports every proposition brought forward by the Grange.

I am asked by your secretary where in the Grange differs from the old "Al-

liance." The plan of organization of the Alliance was similar to ours and was composed of farmers, and there the similarity ends. The Grange appeals to the nobler traits of character and tries to improve the personnel of its membership, it is hostile to no calling or occupation as such. If true to its obligation the Grange can not engage in partisan politics or ally itself to any political party. Could all or any of this be said of the Alliance? Let each answer for himself and decide accordingly. "De mortuis nil nisi bonum." I doubt if any organization ever caused so much discussion of public affairs in so short a time as the Alliance and unquestionably a great deal of information was gained by its members. If not so intended at first, it soon became a political organization, drew into its membership many of the farmers in the Southern States who were members of the Grange and thus deprived those States of their representation in the National Grange.

Why should farmers unite with the Grange in its attempt to better the condition of rural life?

Because it is the only organization that can include the whole rural population. It is the accredited and accepted representative of the agriculturists before the Government at Washington. Witness the fact that when the International Commission appointed by Great Britain and the United States to remove all causes of complaint between Canada and the United States was in session at Quebec, having summoned representatives of all other occupations, trades and professions before them for information as to their respective wants, and were about to conclude their work it occurred to them that they had not heard from the American farmers. They asked the Government at Washington to suggest representatives for that class. They were told to summon the legislative committee of the National Grange. That committee appeared before the commission, examined the schedule thus far agreed upon and were asked their opinion of the arrangements. They replied, "Well you have helped the fish markets and fishermen of New England and the manufacturers generally but have loaded it all upon the farmers," and later and privately to the American commissioners they said "You can not afford to meet that report before the farmers in the campaign preceding the next election. That report never reached the Government at Washington and the Alaskan boundary furnished a subject upon which the commission agreed to disagree.

Again, the Grange is recognized abroad as the exponent of the country people.

The Canadians have heard something about the free rural mail delivery in the United States. They are investigating the working of the system among us and to whom have they applied for information? The Toronto Sun is engaged in this work and its editor wrote to the master of every State Grange. Every master responded and his reply was printed in full in the columns of the Sun. I quote the reason given by the editor for consulting the granges upon this subject. He says, "Now let us hear what the

people who are benefited by the new service have to say. In the search for information on this point, leading officers and members of the Grange in the United States were appealed to. No better source from which to obtain information on this point could be found. The Grange of the United States is the greatest farm organization in the world; it has a membership of half a million; it is mainly through the Grange that the agricultural educational work, such as is conducted here through the farmers' institute system, is carried on in the United States; it was as a result of the efforts of the Grange that the United States Department of Agriculture was created; the best farmers in the Republic are in the order, and a past grand master is assistant secretary of agriculture, while a State master is dean of an agricultural college. Moreover, the free farm delivery system is the creation of the Grange. It was through the efforts of that order, in the face of opposition of press and politicians, that the new policy was brought into existence. It is fitting, then, that members of the Grange in the United States should be asked to pronounce upon the working of this extension of the postal service."

Gentlemen of the Board of Agriculture, the possibilities of the Grange for improving the condition of the great majority of the inhabitants of Kansas, intellectually, morally, socially, and financially are unlimited. The farmers in any political party unite in their demand for honest, honorable men in places of trust, for equal taxation of all classes of property, for better opportunities for education of our children, as good in country as in city, for their just share of the profits of their own labor, will be listened to with respect and their just demands will be granted. The probabilities depend upon whether you and we improve the opportunities offered us by the Grange. The churches and schools do not bestow their highest blessings upon those who refuse to accept them. We have organizations in thirty States in our Union—in fifteen counties in our State. It is a machine which admits of almost unlimited expansion. We need the influence and personal support of just such men and women as I see before me to-day. Separately we can accomplish but little, united nothing reasonable is beyond our reach. Mr. President, before the committee of the House or Senate you will have such an influence as your personality alone commands, as the representative of 100,000 of the agriculturists of our State, your request would be most carefully and seriously considered. Aaron Jones as an individual at Washington will receive the consideration due to his character and intellectual power. National Master Aaron Jones backed by half a million of the best men and women, the representation of 30,000,000 of farmers is an opponent worthy the steel of the billion-dollar corporations.

Grover Cleveland's opinions and desires are now of very little importance to foreign nations. A few years ago with the army and navy behind him, with a single stroke of the pen he brought the proudest nation of Europe to times. Let us join heart and hand in our efforts for happier homes

and more intelligent citizenship, a higher and nobler manhood and womanhood, in all our efforts for the good of our homes, our country and mankind.

### The General-Purpose Hog of the Twentieth Century.

FRANK HOOVER, COLUMBUS, KANS.

The general-purpose hog of the twentieth century is the early-to-market kind. Be he white, black or red, lop-eared or stiff-eared, the farmers of this country will demand the early-maturing kind. He will consume our corn and remain the corn-belt hog withal, but the signs of the times point to modification of the present corn-belt type. He is found in most of the corn-belt breeds to a greater or lesser degree, and a man need not leave that breed, to which he is attached, to find his ideal. Each breeder of pure-breeds may think he has the type closest to the general-purpose hog. He has that right. However, if he does not all in his power to keep close to that type the farmers will forcibly remind him of his failure in a way that will affect his pocketbook, by purchasing their new blood elsewhere.

Technically speaking, he is, at present, wide and short of head, deep of heart and sides, broad of back, with a soft coat and just enough bone to carry him to market. The tendency to excessive bone has not always been found conducive to easy feeding, early-maturing qualities. Enough is enough. His disposition must be quiet. He must be ever ready to make friends with his master, and his general character should indicate the easy feeder. He should be practically fat and ready for market at any period in his life, and finished at 9 months old, when he should weigh not less than 300 pounds. This is not a high mark to shoot at.

Why do we want the early-maturing kind? Because the first part of a hog's life is the period of rapid growth. Henry shows (page 553) in his Feeds and Feeding that a pig gains 75 per cent growth the first week of its life, but gradually drops in its per cent gain till, say the tenth week, when it makes but 31 per cent per week. In another trial he shows that a pig weighing 38 pounds requires 293 pounds of grain for 100 pounds gain, while a hog weighing 320 pounds requires 535 pounds grain for 100 pounds gain or nearly double the amount of feed for the same number of pounds gain. By taking advantage of this law of animal growth the farmer gains a much greater per cent on his investment than otherwise. The lardy leviathan of the old days, who ate himself into a state of de-capitation, has passed away, thanks to the exposure of his profitless life made by our experiment stations.

The general-purpose hog of the twentieth century does not apply to this year alone. The prospects of his immediate future are bright. The next twenty-five years will see greater improvement than the last twenty-five years. The spirit of investigation is abroad in the land, a sure sign of progression. Modifications which will mean improvement are now in sight. Others will appear above the horizon in time, so that he who runs may read. Feed environments will be greatly improved and there is plenty of room for this change.

At present there is an increasing desire among farmers for a balanced ration. A false notion has taken possession of some that outside of the corn they raise, that which goes to make up the balance must be bought at a high price. There seems to be a growing sentiment, however, that the average Kansas farm can produce variety enough for all the balance necessary.

### HOW TO FEED.

One of the modifications now in sight is to come from this new method of feed,

a method that will increase the size and length of our hogs, that will insure their health and that will add to the quality of our pork. The tendency of diminutiveness from excessive feeding of corn, which has been practiced to an alarming extent, seems to be at an end. The pendulum has swung to its farthest point. The return movement has begun. Those of us who feared for our favorite breeds will through feed environment, solve a problem that has resisted the penetration of the brightest minds of the live-stock world.

Grass is one of the best balancers of the corn ration. The farmer figures, maybe, on all the condiments and high-priced feeds advertised, and forgets that the green carpets of Kansas on which he looks and treads so often, are the best condiments known, and as careful experimenters have shown will save him in feed 20 to 30 per cent. The two men who have made the most money out of hogs in Cherokee County, have grass in abundance. Why will we keep our cows knee-deep in grass and our hogs knee-deep in mud? In a drive of nearly fifty miles last spring, over a good portion of two of our southeastern counties, I was astounded to see but one farmer that had adequate pasture for his herd of hogs. Corn has been cultivated two hundred years, and its possibilities are just being discovered. Without it our Puritan forefathers would have perished, and we might have had no New England. Now corn culture is much discussed and corn-breeding associations are in vogue. When will the "grass-growers" form an association and lay before the world the possibilities of grass? Such a variety of grasses as grow in Kansas! Such a world of feed going to waste! The day of grass needs to be hastened.

**BREEDING TYPES.**

Prolificacy must not be lost sight of in the general-purpose hog. It has been observed that domesticity tends toward less prolificacy in our farm animals, that the hog suffers no more from this than other animals. The antidote for this is to use only sires and dams from large litters and these in but moderate flesh. Excessive flesh produces a crowding of internal organs detrimental to fecundity. Other conditions may modify somewhat, but the above is the foundation of success.

The rule most accepted in breeding nowadays is to use a smooth compact sire and rangey sows. My own experience along these lines has not been entirely satisfactory. My best results have been from using sire and dams of similar type, the type described in the first part of this paper. Too much diversity between sire and dam brings litters of two types, and when the produce is old enough for breeding one is never sure to which side of the house will revert its offspring. Similarity of breeding stock produces offspring of much greater reliability in its reproduction.

There is a theory, and it is growing some, that young breeding stock is more productive of early maturity than old breeding stock. While this may be true, it is also true that young breeding stock does not produce the size that old breeding stock does and I think the good arising therefrom is more than offset by the bad. It is much safer to use aged sire and dams that have come to their maturity quickly.

When we know the value of grass and the proper use of disinfectants we will cease to have so great a fear of cholera. The improvements that are constantly made as our farmers give intelligent study to feed conditions will do much to overcome this scourge. The time is coming when more cows will be milked in Kansas, when more separators will be found on Kansas farms, and when more milk will be fed to Kansas hogs. With skim-milk, grass, sanitation, exercise, fresh range, plenty of air and sunshine and a balanced ration, where will there be a lodging place in the system of the general-purpose hog of the twentieth century for the cholera, anyway?

The general-purpose hog of the twentieth century will not be evolved from the scrub, he will come from pure-bred ancestors. No farmer in these days but can have a herd of pure-bred hogs. He may not want to go to the expense of keeping them registered, to be sure, he may not have the taste to raise them to sell to the trade, but he can not afford, from the standpoint of profit, to have any other. While I call to mind but one station experimenting along these lines it was proven there, that the pure-breds made the same gains on from 10 to 33 per cent less feed.

**KEEP UP WITH THE TIMES.**

I can not close this paper without considering the man who feeds and develops this general-purpose hog of the twentieth century. Is he always a twentieth century man? Is he not sometimes a century behind the times? Is he not found advocating some old theories handed down to him by ages of prejudice that have not a single prop on which to stand? Is he living up to his possibilities? In Kansas the swine industry stands next to the foot of the ladder in its total value according to the latest sent out by Secretary Coburn and taken from statistics furnished by Uncle Sam. Save sheep, which are raised in Kansas for dog-meat only, hogs stand the lowest, and that in the face of the fact that hogs increase more rapidly than any other of our domestic animals. Out-of-date methods are largely the cause of this. For one cent a man can have all the reports of his State experiment stations sent to him; reports that will teach him

the best methods in feeding and give him most practical and modern ideas along these lines.

I can not urge too strongly on our swine-feeders to keep thoroughly in touch with our experiment stations. And I want to add right here, I can not pay too high tribute to the earnest men of these institutions, who are doing all they can to uncover the fallacies of the old way of swine-raising. Added to the station reports, I would equip myself with one or two of the best swine papers published, get Coburn on Swine Husbandry, McIntosh on Diseases of Swine and Henry on Feeds and Feeding. Further, I would get next to the best hogman in my county, I would camp on his trail, buy, borrow, or steal his methods, and apply them too. I would think and think, and get some mind discipline not classified in the curriculum of the college enthusiast. One failure would be followed by another until I could be able to cry "Eureka!"

**The Railroad and the Farmer.**

J. W. GLEED.

The subject assigned to me resolves itself into the question of railroad rates, a subject almost as vast and intricate as the life of this great nation. I hardly need say that I shall attempt no complete or systematic discussion of the rate question. I have neither the knowledge nor the time for that. What I propose, however, is to present some thoughts regarding railroad rates. I may not arrive at any very definite conclusions; I do not wish to be understood as attempting to present the whole question; but I shall attempt to present some of the matters and considerations which must enter into its final and correct solution. My one word more by way of introduction is this: I beg of you to remember that I am not attempting to state matters with scientific or mathematical accuracy but only to outline a few general principles; and for this purpose, in a brief space of time, I am compelled to make here and there a broad general assertion which is true in the large but which you will understand as I understand, is subject to certain exceptions and modifications which I shall not have time here to state. All I ask for a fair and hospitable consideration of certain general propositions which I shall advance.

Strangers naturally distrust each other. The misfortune of the railroad situation in the West is that the very numerous owners of the railroads—stockholders and bondholders, large and small—never meet the patrons face to face. As a matter of fact the owners and the patrons are made of identical clay and possessed of the same desires, aspirations, virtues, and failings—a fact which both are likely to forget. If the owners lived along the right of way, many conflicts and misunderstandings would be avoided. Unfortunately they live fifteen hundred miles away or farther. This is indeed the danger of our whole industrial system, that persons linked together in the closest way by business relations, buyer and seller, shipper and carrier, employer and employed, can no longer have their sharp antagonisms of interest smoothed and adjusted and explained by personal contact as in the old days of small concerns and a multitude of small, separate, and independent communities.

In certain years of extreme distress, now fortunately past, there was much bitterness and bad language. The farmers said to the railroad owners something like this:

"You railroad barons of the East, not content with robbing the people of the best part of the public domain, not content with vast subsidies in the form of municipal aid bonds, often procured by bribery and fraud, have loaded all the great public highways with first mortgage bond and second mortgage bonds, and income bonds, and first preferred stock, and second preferred stock, and common stock, have created a huge, fraudulent and artificial capitalization and are now compelling us to pay interest on this vast sum out of funds which ought to go to supply necessities and comforts to our wives and children. You have us absolutely in your power. We must reach the market and you levy upon us all the toll which it is possible for us to pay and survive."

And the railroad owners retorted: "We gather our accumulated capital from all classes and conditions of thrifty, hard-working citizens, and we build railroads and telegraphs through deserts. We made it possible for you to go to where the American people could not have gone in one hundred years but for our thrift, enterprise, and daring. We opened and improved your farms and built your cities. We made it possible for you to achieve in twenty years a material progress greater than the older States made in two hundred. And now that you have possession of our property, now that our railroads cover your vast prairies like a spider's web, now that your cities and villages are built and your farms are improved and stocked, now that you have all the benefit of our risk and venture, you turn upon us. We took the hazard. We placed our money in the wilderness, in new and untried enterprises, and it can not be removed. You have possession of it. You over-tax our railroads. You blackmail us in your legislatures. You assume the right to regulate our rates. You rob us as jurymen. You refuse us justice in your courts. You attack and harass us in every conceivable and possible way. We are at your mercy. You have our property in your possession and you know it can not be removed; and you do not even pretend to deal justly by us."

**THE WEAR OF RUBBER BOOTS AND SHOES DEPENDS UPON THE RUBBER IN THEM.**

There is absolutely no wear in any of the other ingredients of which they are composed. Every time the quality of Rubber Boots and Shoes is reduced 10 per cent., the durability is reduced over 20 per cent. because there is only one way to cheapen them, and that is to leave out Rubber and put in its place other things that have no wearing quality whatever. This cheapening process has been steadily going on for the past 40 years.

**THE BUCKSKIN BRAND**

**OF RUBBER BOOTS AND SHOES**  
are made of real rubber—and one pair of them will outwear two pairs of the standard first grades now on the market. Try a pair and be convinced. Made in Duck Boots, Duck rolled edge Overs for Socks, and Felt Boots and in Arctics and light rubber shoes. Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes. If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting catalogue profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.

**MONARCH RUBBER CO.,**  
560 Bittner St., ST. LOUIS, MO.  
**NOT MADE BY A TRUST.**



An actual test of a 2-inch strip cut from the sole of the Buckskin Boot. Note the elasticity and strength. Only the best Rubber will stand a test like this. Weight of boy and swing 110 lbs.

You are all, I think, old enough to remember some essays and orations of this tone and stamp.

I shall attempt, this afternoon, the partial examination of one of the ideas above hinted at; namely, the idea, which many people seem honestly to entertain, that the railroads possess an arbitrary and unjust power over the farmers of the West; that they are properly likened to the feudal barons, or something worse; that they wield the power of "life and death;" that the farmers "are at their mercy;" that they exact unconscionable tolls from helpless producers; that the railroads have unlimited power, that no natural economic laws or checks intervene to restrain their rapacity and that the farmer's only protection from unjust charges is the strong arm of municipal law. You are all familiar with the idea. Put in another way it is this: That the owners of the railroads have unlimited power; that human nature is naturally selfish; and that, therefore, of course the railroad owners are seizing the lion's share of the product of labor.

My position is that this idea is false. That you may see how I have arrived at my opinion I must first institute some comparisons between the business of the railroader and other forms of human industry.

Broadly speaking we may say that the farmers of America own the farm land. They have a monopoly of it. The free public domain is gone. The farmers have got control of the source of food supply. Yet we do not assume that they are exacting an unjust price for their corn and wheat. We know that they get all they can, that they charge all the traffic will bear, but we do not assume that they make unjust charges. We assume that their desire for profit—which in a railroad owner I presume would be called "rapacity"—is checked and controlled by natural laws such as the law of competition and the law of supply and demand. The same remarks will apply to the builder, the blacksmith, the miller, the coal-miner, etc. The reason, I suppose, why it has been so commonly assumed that the railroads exact an unconscionable amount for their product transportation, is that it has been assumed that railroads have not been, and are not, subject to the law of competition nor to the law of supply and demand nor to any other natural law fixing the amount of their remuneration, as such laws do fix the amount of the remuneration of the farmer. Now I believe the fact is, not only that the law of competition has applied and does apply to the railroad traffic in this country but that, from certain inherent peculiarities of the railroad carrying trade, that law of competition has at divers periods and places affected and does affect the railroads much more acutely and disastrously than any form of economic activity. While it has not worked its results in the same way nor with the same regularity it has worked them nevertheless. I believe further that other natural laws or forces are constantly at work automatically regulating and controlling the compensation of railroads. So that there is no more ground for assuming that the railroads are overpaid than there is for assuming that any other form of industry is overpaid.

What do I mean by the peculiar character of the railroad carrying trade, and why do I aver that it suffers with pecu-

liar acuteness the ravages of competition? How does the production of the commodity called transportation differ from the production of any other commodity? Let us see.

**RAILROAD TRANSPORTATION AS A PRODUCT—IT'S PECULIAR LAW.**

The fundamental difference between the production of transportation, viewing that as a commodity, and the production of corn or coal is often hinted at by the man who meditates asking for a pass. He says to himself: "The trains must run anyhow and the addition of one passenger will not increase the expense of the railroad one penny." This statement is almost literally true. Or take another illustration: Suppose that to-morrow a car-load of cattle be offered the Union Pacific at Ellsworth at an exceedingly low rate. The question will arise: How much will the total annual expense of that railroad be increased by receiving the cattle? Probably very little; some coal, the wages of some train men, a trifle additional wear and tear on the rails and on the rolling stock; that is about all.

If the farmer plans to double his production of corn it means, in the rough, a doubling of his land, seed and labor; a doubling of his original investment and of annual gross expense. If the coal-miner plans to double the output of coal it means, in the rough (although of course, this statement is not accurate) a doubling of labor and machinery. Before railroads were invented, a doubling of land transportation meant a doubling of wagons, horses and feed and teamsters. But to double the total product of railroad transportation, to double the total tonnage of a railroad does not mean doubling its investment nor doubling its total annual expense, nor anything like it; it means a comparatively small increase in the total annual expense. Assume a new road in an undeveloped country transporting only five hundred tons daily; the real cost per ton per mile is enormous. An additional five hundred tons, considered by itself, would cost very little; and would reduce the average cost of the thousand tons very much. Each additional five hundred would work the same result in varying degrees. What I may call the saturation point was reached when all the cars possible were passing over the rails every minute of the twenty-four hours; and all at all times fully loaded. The law hinted at in this statement is called the law of increasing returns—a law of peculiar importance in the railroad business and especially in a country like ours.

Let us follow this matter a little further. Comparatively speaking, it costs nothing to keep a farm prepared and ready to produce corn or wheat. Your field may lie fallow or in grass for the next ten years and be just as ready to produce at the end of that period as it is now. A mine or even a factory may shut down for a considerable time, and yet at a comparatively small expense be kept ready to produce at almost a moment's notice. In the case of a farm, a mine, or (in less degree) a factory, the expense of the product consists largely in the labor and material consumed in the actual, immediate process of production; and the amount of such labor and material, or in other words, of such ex-

(Continued on page 146.)

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Endorsed by State Veterinarians. Every Package Guaranteed  
Especially for "Out of Condition," wormy, or "run down" stock of all kinds. It's made upon honor. Accept no substitutes. Farmers, Stockmen, Get It, Try It, and you will stay by it. 25-cent, 50-cent, 75-cent and \$3.00 packages. We are also exclusive manufacturers of Rex Lice and Mite Killer, Rex Poultry Food, Rex Hog Remedy, and Rex Stock Food.  
**REX STOCK FOOD CO., OMAHA, NEBRASKA.**



**Gossip About Stock.**

S. Y. Thornton, Blackwater, Mo., who has been advertising in the Kansas Farmer and is well pleased with the results as it has sold all of suitable age that he has to spare, is breeding thirty sows and will have announcements later when he has stock for sale.

The popular headquarters for stockmen who visit Kansas City is the Coates House. Direct car lines from the Union Depot and to the stock-yard. Whenever public sales of fine stock are held at Kansas City you can depend on meeting the crowd at the new Coates House. Special rates to stockmen.

We call the special attention of our readers to the number of choice bargains offered in our "Special Want Column" and "Poultry Breeders' Directory." Evidently some great values are to be obtained judging from the volume of business being done by advertisers using this classified advertising space.

Col. L. R. Brady, of Manhattan, who will assist Col Sparks in the public sale of Shorthorns from the Blue-Grass herd of J. S. McIntosh, to be held at Manhattan, Monday, February 16. This sale will dedicate the new sale pavilion, a product of the enterprise of Mr. C. P. Dewey. It is a building 50 by 90, and is well lighted and ventilated.

We call special attention to the public sale of pure-bred Percheron and French draft horses to be held at Milan, Mo., February 20, 1903. This is an important event for those interested in securing this class of stock, as this is strictly a representative offering and one that we can heartily commend to our readers. Notice the announcement in this issue and write for a catalogue which are now ready.

Keep your eye on Galloway cattle. Last year was the most successful in the history of the breed, and with characteristic enterprise the directors of the American Galloway Breeders' Association have materially increased their appropriation of prize money for the breed. At a recent meeting they have appropriated \$4,000 in special premiums for the American Royal show at Kansas City and the International Live Stock Exposition at Chicago in 1903.

W. W. Gray, of Fayette, Mo., writes that he is well pleased with the result of the Hereford sale at Omaha on January 22 and 23. His consignment of seven bulls averaged \$214.55, and seven heifers averaged \$185.55. Among the bulls sold was the 10-months calf, Wayside Chief, sired by March On 14th 106676, which went to M. Lorenz, White Cloud, Minn., for \$350 to head his herd, and it is evident that future fame awaits the enterprising owner as well as the State of Minnesota on this purchase.

A recent action taken by the railroad companies of Texas, and one which is doubtless appreciated by the live-stock interests of that State and which is well worthy of imitation elsewhere, is that by which the live stock intended for exhibition at the seventh Annual Fat Stock Show, to be held at Fort Worth on March 5, 6, and 7, next will be returned free. It is only required that full tariff rates be paid from shipping points to Fort Worth and that the animals do not change ownership. A one-way rate for breeding and fat stock shows is certainly a profitable investment for any railroad company.

The Daily Live Stock Reporter, of Fort Worth, Tex., in a recent issue, announces the satisfactory fact that farmers and ranchmen in the western portion of the State have very generally taken up the hog-raising industry. Heretofore the climatic conditions existing there have been thought to be antagonistic to profitable hog-raising but experiment and investigation have proved that with alfalfa, kafir-corn, milo-maise and sugar beets, hogs can be raised and fattened to perfection without the necessity of depending upon corn. Thus a new field is opened out to the breeders of Kansas and adjacent territory.

C. S. Nevius, Chiles, Kans., who owns the Glenwood herds of Shorthorn cattle and Poland-China hogs, is going to make a stir in the Shorthorn show-ring next year, unless some bad luck overtakes him. With Victor of Wildwood 126054 at the head of his Shorthorn herd he is sure of some youngsters that are of the quality they all want, and with the older animals he now has he will undoubtedly be able to fill up most if not all of the classes in the show-ring with a herd of unusual excellence. Both his Shorthorns and Poland-Chinas have been selling like hot cakes lately and the buyer who needs any of this quality will have to get next quick. His card is on page 164.

The gift of a choice Hereford bull to the State Agricultural College from Mr. F. Rockefeller's great breeding farm at Belvidere, Kans., comes at a time when it should be most highly appreciated, not only by the college authorities but by the people of the whole State. While the college has ten breeds of pure-bred cattle represented in its herd, it must be admitted that some of these representatives are very inferior. This has been particularly true of the Hereford and Shorthorn bulls, but can now no longer be true in regard to the Herefords, since this donation by Mr. Rockefeller has given them a bull that will be a credit to the college and to the breed.

Farmers or ranchmen can find no better opportunity to secure a bunch of choice high-grade Herefords than that offered by W. P. Goode, Lenexa, Kans., whose card appears on page 161. These animals are out of dams of the fifteenth cross by registered Hereford bulls. Mr. Goode has always used registered bulls and has graded up a herd that is practically full blood. He now offers them as a very reasonable price and knowing Mr. Goode as we do, we feel safe in saying that anyone in need of high quality of cattle will be justified in visiting his farm before purchasing. He now offers twenty-five head of long yearling bulls and fifty head of bull and heifer calves of these high grades and he offers them right.

Mr. W. J. Snodgrass Gordon, Kans., has a yearling Shorthorn bull on his Walnut Valley Stock Farm which was sired by Golden Lad and weighs 1,410 pounds. As

he was calved on June 1, and as he has never been crowded, his owner has reason to feel proud of his present weight and mellow condition. His herd-bull, Scott Junior 124222, is still the champion in his section of the State, and it is unfortunate that Mr. Snodgrass has not more of his get for sale. He writes that he is practically sold out of everything that is of serviceable age but will be in the field again shortly with a number of fine Scotch and Scotch-topped youngsters.

We take pleasure in calling the attention of our readers to the advertisement of the Rex Stock Food Co., of Omaha. They are calling the special attention of farmers and stock owners to the Rex Conditioner for "wormy" and "out-of-condition" stock. This is endorsed by State veterinarians which is good evidence for the merit of it. Any animal "out of order" wastes about 50 per cent of its grain feed and that waste is expensive. Rex Lice Killer and Rex Poultry Food are endorsed by poultry associations and purchasers should insist on dealers furnishing them these goods which are known to possess superior merits, and the "Rex" goods stand out prominently as the best on the market and are made only by the Rex Stock Food Company, of Omaha, Neb.

During the week spent in Lincoln, Neb., in attendance upon the various meetings which may be best described by the general title "Organized Agriculture," we noticed a bit of enterprise that so pleased us that we think it worthy of imitation. A number of the largest business houses on the principal business street had donated entire show-windows for the exhibits made by the experiment station. These showed various lines of work in progress and proved most interesting and attractive to the throng of visitors then in the city. One striking exhibit thus shown was a series of show-bottles containing the ingredients and exact proportions of balanced rations, prepared for different classes of feeding animals. These included both beef and dairy cattle and hogs, and were made up of the common farm products in such a way as to derive their utmost value from them.

Harry E. Lunt, of Burden, Kans., one of the best breeders of Poland-Chinas in the State, has the satisfaction of knowing that his numerous customers with whom he has had business are satisfied and content. He never sends out anything except good stock and at reasonable prices. In a recent business letter he states that he has a few choice boars of serviceable age including his show boar by Sealy's Model also one out of a granddaughter of Perfect I Know. Two males are sired by Look No Further that are large, smooth and fancy. He has also a number of September pigs, both sexes, that are quite choice. In Shorthorn cattle he has a few registered bulls for immediate sale. These are of serviceable age, the oldest being 4 years old and weighing 2,080 pounds. They are of Scotch breeding and will be sold at very reasonable figures. Mr. Lunt also reports a lively trade in fancy poultry; in fact he is sold out of birds which have gone to all the States from Wisconsin to Mexico.

Will H. Rhodes, proprietor of East Lynn Farm Herd of Herefords and Berkshires, Tampa, Kans., writes that his animals of both breeds are doing nicely. He has been making some extra good sales of late, among which may be mentioned the great Premier boar, Lord Premier 4th 55577, used so successfully at the head of the East Lynn Herd. This boar was purchased by Prof. H. M. Cottrell for use in the Vrooman herd at Trenton, Mo., which serves to impress two facts on the minds of the reader. First, that Will Rhodes knows how to breed Berkshires, and second that Prof. Cottrell knows where to go to buy them. We congratulate the Vrooman people upon securing this great boar to head their herd. While Mr. Rhodes is best known perhaps as a Berkshire man, he has some extra quality Herefords in his herd. The herd bulls of East Lynn are Java of East Lynn 100229 and Imp. Duke of Clarence 138106. The name of Java alone is enough to recommend any young stuff that may be offered from East Lynn, and when it is announced that Mr. Rhodes has two or three grand yearling bulls by this sire for sale it will give would-be purchasers a most favorable hint towards following his example and get started right.

C. M. Garver & Son, Abilene, Kans., have gone into the Poland-China business in a way that we like to commend. Their hogs have been given all the alfalfa and skimmed milk they could take care of ever since they were old enough to eat, and as a consequence they are growthy, smooth, heavy boned, and wonderfully even as a lot. The breeding of the best and most fashionable. The herd boars are Hadley I Know 21402, who is a Chief Tecumseh 2d boar, out of a Hadley 2d sow; Kansas Chief 28250, a Chief Tecumseh boar, out of a Wilkes sow; Hard to Beat 29612, a Chief Again boar, out of a Chief's Rival sow; and Marshall's Perfection boar, out of a Model U. S. sow. These boars were bred in the order named by Geo. W. Berry, S. McKelvie & Sons, E. E. Wait, and J. D. Marshall. It will at once be conceded that the breeding is all right and a brief inspection shows that the feeding also has been all right. Parties from a distance will be entertained when they go to his sale on February 13, and free conveyance will be furnished to and from the sale. The catalogues are ready. Secure one at once and be ready to attend the sale. Notice the advertisement on page 165.

The most useful implement on the farm is the one which brings best results for the least cost. And when it is asserted that the Topeka Foundry Soil packer, an illustration of which appears on page 153, is of such efficiency that its use once on a field is equivalent to an inch of rain it awakens interest in the mind of the Kansas farmer at once. Last spring, which was practically the first season for this machine, the factory was kept busy in their manufacture and sold them into the following counties in Kansas: Brown, Douglas, Jackson, Shawnee, Osage, Pottawatomie, Wabaunsee, Greenwood, Marshall, Riley, Geary, Washington, Clay, Marion, Republic, Cloud, Ottawa, Saline, McPherson, Harvey, Sedgwick, Ellsworth, Reno, Kingman, Russell, Phillips, Ellis, Pawnee, Norton, Trego, Ness, Sheridan,



**IN THE SPRING**

The farmer's fancy turns to the tillage of his fields. A new plow will be the order of the day on at least 1,000,000 farms this year. One fourth of them will be *Modern, Up-to-date, High Grade, Standard*

**JOHN DEERE STEEL PLOWS**

About 2000 car loads of which will go out between January and May for

**Enterprising, Progressive Farmers**

Of the United States and Canada.

If you don't need a new plow, you may want a Deere Spike Tooth or Disc Harrow, a Deere Corn Planter or Cultivator. In any event write for the little booklet advertised in KANSAS FARMER.

**DEERE & COMPANY, Moline, Ills.**

Gove, Lane, Gray, Rawlins, Logan, as well as in several counties on Oklahoma, the Indian Territory, and Nebraska. While this machine is good for use at any part of the growing season, it is especially valuable after the frost has heaved the soil and left it open to dry out rapidly, and also in the preparation of land for fall wheat and when it is extremely important to compress the surface and preserve all the moisture. A letter addressed to Topeka Foundry, Topeka, Kans., will bring information and prices.

We call special attention to the next Kansas sale of Shorthorn cattle which will be held at Manhattan, Kans., February 16, 1903. The offering is an especially desirable lot of well-selected Scotch-bred Shorthorn cattle. Over twenty of the cows will have calves at side by Color Bearer, and all of the others are bred and will be well forward in calf to the same herd sire. Regarding this offering Mr. McIntosh has the following to say: "Breeders and admirers of the Shorthorn breed of cattle will find the Blue-Grass Herd, from which this offering has been selected, an unusually practical herd. Founded upon the best blood, drawn from the leading herds, by Mr. Charles Lothholz, of Eudora, Kans., nearly twenty years ago, this herd has all along been maintained at the highest level possible. The best sires obtainable have been used from year to year, as the accompanying pedigrees will show. The Scotch bull, Amos Cruickshank, a most excellent breeder was followed by Imp. Proud Archer, got by Scottish Archer, whose pedigree in full will be found in the following pages. For the past eighteen months Color Bearer 127045 has been in service, and has proven himself one of the best breeding bulls we have seen in the State, producing uniformly red calves of great size and much quality. None of his calves, from cows of any color, has been other than a solid red. Color Bearer is full of the Princess Royal breeding on his dam's side, and his sire was the renowned show and breeding bull, Imp. Cupbearer."

On February 18 will be held a sale of fifty bred Poland-China sows and gilts at the beautiful farm-home of C. M. Garver Son, Abilene, Kans. Judging from the quality of the stock offered and from the breeding lines represented in this herd, this sale will be something of an epoch maker in Poland-China history in central Kansas. Mr. Garver has about two hundred head of fashionably bred Poland-Chinas from which he has made a draft of fifty choice ones in this sale. Most of these will be bred for March and April farrow. Among the number contributed are some yearling sows that are proved breeders. Also a few yearling gilts that art bred for their first litters this spring. Embraced in the sale offering is a number of show pigs that would be extremely useful in the show-ring as well as in the breeding pen. Mr. Garver has a very finely equipped farm and a very large barn which will be used for the sale in the event of bad weather. One thing that impressed our representative most favorably in his visit to this herd was the fact that the junior member of the firm is thoroughly posted on feeding as well as breeding and is a young man who has evidently started right by studying his breeding. His example can profitably be followed by thousands of young men who have their present ambitions upon the learned professions which are already so overcrowded. Write to Mr. Garver for his catalogue which will give breeding lines in full, and keep your eye on this column for later information in regard to this offering.

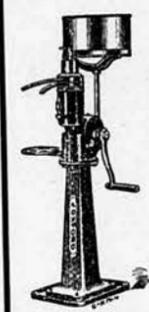
The forthcoming sale of registered Shorthorn breeding cows and herd-bulls and show cattle, to be held in the fine-stock pavilion at Kansas City on February 10 and 11, will be an event of extraordinary interest to the entire breeding Shorthorn fraternity, as it will be the occasion of the grand Shorthorn sale by Col. G. M. Casey, of Clinton, Mo., and

T. J. Wornall & Son, of Liberty, Mo. It will be remembered that Coloney Casey became famous for supplying the top-notch fat steers for the Kansas City market for years, and at the same time has built up an ideal herd of pure-bred Shorthorns of ideal beef type known as the "Casey Mixture," and who, during a period of three years, bought fifty head of the "top-notch" Shorthorns produced in the United States, which cost him an average of \$1,000 apiece. His sale of February 11 will be the first public offering ever made from his celebrated Tebo Lawn herd. Notwithstanding the fact that he paid long prices for his foundation stock to suit his personal fancy he has always sold his surplus produce at very reasonable figures, consequently buyers who desire some of the Casey type of Shorthorns will have an opportunity at this sale to buy them at their own prices. He does not expect any fancy prices. Whosoever will may buy. The Tebo Lawn herd was the champion Shorthorn herd of America in 1902. Catalogues of his offering may be had on request from E. B. Mitchell, Mgr., Clinton, Mo. The day preceding his sale, February 10, T. J. Wornall & Son, Liberty, Mo., who made such a record in the show-rings during recent years, including the championship for two years in succession, will sell forty-four cows and heifers and six bulls good enough to head first-class herds. Mr. Wornall made a great record with a young show-herd in 1902, most of which will be included in this sale. Therefore in view of the significant facts herein stated, the occasion of this two days' sale should cause the Shorthorn buyers to make a great rally at this sale. In view of the State fairs and the nearness of the World's Fair in 1904, this Shorthorn event will not be overlooked by shrewd and discriminating breeders. Notice the advertisement in this issue and secure your catalogue and then make your arrangements to be at this sale. An offering of this grand and representative character should not be allowed the slight of a slim support. No better Shorthorns will be offered this year.

**FOR OVER SIXTY YEARS**  
An old and Well-Tried Remedy. Mrs. Winslow's Soothing Syrup has been used for over Sixty Years by Millions of Mothers for their Children while Teething, with Perfect Success. It soothes the Child, softens the Gums, allays all Pain; cures Wind Colic, and is the best remedy for Diarrhoea. Sold by druggists in every part of the world. Be sure and ask for Mrs. Winslow's Soothing Syrup and take no other kind.  
**Twenty-Five Cents a Bottle.**

**...PLANT...**  
**Pinus Divaricata Seed!**  
Hardest evergreen for sandy prairie. 1 ounce (nearly 4,000 seeds) prepaid for 50 cents.  
**H. B. AYERS,** - - - - - Minn.  
Sturgeon Lake

**NEW OXFORD BALL-BEARING CREAM SEPARATOR**



The latest and best production in Cream Separators. They skim clean, are easy to wash, run easy, simple in construction, neat in appearance. The most durable machine on the market. Before you buy a Separator, see the New Oxford, or send for our Catalogue No. 187.

**World Cream Separator Co**  
COUNCIL BLUFFS, IA.  
Office and Factory, 41-47 North Main Street.

**PILES NO MONEY TILL CURED. 25 YEARS ESTABLISHED.**  
We send FREE and postpaid a 200 page treatise on Piles, Fistula and Diseases of the Rectum; also 100 page illus. treatise on Diseases of Women. Of the thousands cured by our mild method, none paid a cent till cured—we furnish their names on application.  
**DRS. THORNTON & MINOR, 1007 Oak St., Kansas City, Mo.**

### The Railroad and the Farmer.

(Continued from page 143.)

pense can be easily proportioned to the amount of final product expected, intended, or demanded. What I shall call the invariable charges, the expense or loss or out-go, necessary in merely keeping the machine ready to do business, is small. It includes little more than the interest on the investment and the taxes.

In the case of the railroad, the expense of keeping the machine ready to produce is, comparatively speaking, everything; the expense of the actual, immediate process of production, nothing. It is stated on good authority that the expense of this immediate cost of production—expense for coal, oil, waste, trainmen, and engine repairs, is less than the twentieth part of one cent per ton per mile. Whether there is a vast traffic or practically none, the ties and rails must be from time to time renewed, the bridges and culverts inspected and repaired, the road-bed kept in order and patrolled, the terminal facilities maintained, the station-houses kept open and guarded, the wires kept in order and properly manned, the water-tanks and coal-bins filled, the engines, freight-cars, passenger-cars, sleeping-cars, and dining-cars on hand and in perfect repair. The expense of mere maintenance of right of way and rolling-stock and buildings is the great item. That the transportation machine may merely be kept ready to produce requires that there shall be created and kept in existence a vast corps of skilled operatives. Besides this there must be at the home office and at division points various operating, contracting, accounting, and directing officials with their corps of assistants and clerks ready to do business if the public offers business to be done. A railroad, prepared to produce the commodity called transportation, not only has to do with all kinds of complicated and intricate physical machines, requiring high skill and training for their management, but it is itself a complicated and intricate human machine, composed of many skilled man properly organized, all working to one great end and requiring great skill and genius in its control; it is a human machine that can not be brought into existence at a moment's notice.

Now as I said before, your farm, mine, or factory, or hotel, or mill may be kept ready to produce at comparatively small expense, one at smaller expense than another, but all comparatively small, and the cost of their product consists, to a comparatively large degree, in the labor and material consumed in the immediate, actual process of production; and the amount of this cost or out-go can, therefore, be readily proportioned to the amount of product likely to be demanded. But the railroad can be kept ready to produce only at a great expense and the cost of its product consists very little in the labor and material consumed in the actual, immediate process of production. The real cost of its product consists largely in the expense of keeping the machine ready; and this expense can not be regulated or proportioned in any material degree to the amount of product likely to be in demand, but is, in a large degree, a fixed or invariable charge. Thus I divide the total out-go or expense into two classes. Those charges which must go on with no change, or comparatively little, whether the product be very small or very large, I will call, for convenience, invariable charges, and those charges which vary in complete, or even in partial proportion to the total product, I will call variable or proportionable charges. In the case of the farm, or the mine, or the factory the invariable charges do not include much more than the interest on the investment and the taxes. The variable charges are the labor and material and selling expenses, and these are the large part of the total expense and are proportionable. In the case of the railroad the invariable charges include much more; and for the purpose of the point I am now making, they may be fairly said to include interest on the original investment which is vast, taxes, maintenance of right of way and rolling stock, and of buildings, cost of keeping the stations and the offices open and ready to do business, and, in some sense, all the expenses which I have enumerated as necessary in keeping the machine ready. The invariable expense may in a certain sense be said to include everything but the wages of the train operators and the cost of the coal consumed in running the trains. Of course, as a matter of fact, the two classes of expenses share into each other. Thus, the station-master's salary, up to a certain point of traffic, lies in the invariable class. When he has to have an assistant on account of increase of traffic, the expense of the station passes to a small degree into the variable class; and this holds true in varying degrees elsewhere. But I think enough has been said fairly to convey my meaning. The railroad must run and all these expenses which I have enumerated as expenses necessary in keeping the machine ready, must be borne and must be more or less the same, whether the tons of transportation "produced" shall turn out to be one hundred or one million. Even those expenses which you would call variable or proportionable are hardly so in the same complete sense that you find them in other lines of business. The expense for coal and train-men's wages will vary somewhat in proportion to the amount of transportation produced but not in perfect proportion. If traffic be greatly diminished the expense of the immediate process of production—that is, for coal and train-men—will be diminished but probably not in complete pro-

portion to the shrinkage of the traffic, and some of the other expenses which I have denominated invariable will be somewhat diminished but in very small proportion to the diminution of the traffic, and some of them not at all. And if the traffic be immediately increased, more coal and train-men will be required but the other expenses will be increased comparatively little or not at all. On one great system in 1897 the cost maintenance of right-of-way and structures was more than \$6,000,000; in 1902 with gross earnings doubled, this cost was not greater but less.

Thus, I think it will be clear that in the production of transportation the proportion of invariable expenses to the variable is enormously larger than in any other line of production.

### INVESTMENT PERMANENT—MARKET NARROW.

An investment in railway track and roadbed is certainly "permanent." It can never be withdrawn nor moved nor turned to other uses. It is an investment that can never produce but one commodity, namely, transportation. That transportation must be consumed in a strictly local market—in the territory where the railroad lies; it can not be taken to some other market and there be sold. It must be consumed at the time when it is brought into being; it can not be stored in July to be sold in November. It must be produced and consumed every month and every day; traffic must be properly distributed, as to time and as to direction, if the road is to pay; the invariable charges are going on always.

A railroad once built must stay. It can not diminish its capital nor turn it to other uses. Bankrupt though it becomes, its wheels still turn in desperate hope; and the worse its financial plight, the more reckless and dangerous its competition.

### NATURAL CONDITIONS AND LAWS PROTECTING THE FARMER.

Now let us see what natural conditions, forces, and laws there are bearing down on the railroads, limiting the supposed arbitrary power of their owners, and tending all the while to keep the cost of transportation within bounds or even to depress it below reasonable limits. Let us see what natural conditions, forces, and laws there are to protect the farmer.

One of these protections lies in vastness of the initial investment, its fixed and unalterable character and the narrowness and "monetary character of the transportation market as just described.

Another is the law of increasing returns considered by itself and without regard to its effect on competition which will be discussed hereafter.

Profitable railroading imperatively calls for vast tonnage at low rates rather than medium tonnage at medium rates or small tonnage at high rates. There may be more net profit in eleven tons at one dollar a ton than in one ton at ten dollars. Profitable railroading imperatively calls for flux, for the maximum movement of commodities. The railroad is always anxious that you shall produce and ship more cattle and more hogs and more corn, and it is to its interest in every way possible to promote this additional production and exchange. If lowering the rate from ten dollars to one dollar will evoke eleven tons where only one was shipped before, the railroad may profit by lowering the rate. The law of increasing returns is an especially powerful factor in the newer and more undeveloped countries.

To keep the machine ready—and this must be done—the railroad can not be allowed to keep the machine ready means almost immediate bankruptcy if there be no traffic; it means bankruptcy very soon if the volume of traffic be small, and it means bankruptcy before a very long time if the total tonnage be not, in fact, vast. And herein lies the weakness, "the defenselessness," of the railroad. The road must have tonnage. Its invariable expenses are so vast that it must have a vast volume of freight; it must have this freight every month and every year; it must be properly distributed; and this "must" is quite as imperative and inexorable as the "must" which rests upon the farmer to ship his grain. Indeed it is more so. The farmer can vary his crop. If it does not pay to ship corn he can raise cattle and hogs. If rates are too high upon meats and hides from Topeka to Boston, and too high on boots and books from Boston to Topeka, we might easily manufacture our own boots and books and not suffer very much from the change—perhaps in the end, be the gainers thereby—but the sufferings of the roads would be great.

And this is describing another remedy for too high rates which lies in the hands of the people, the remedy by substitution. It applies to the trusts as well as to the railroads. A while ago the great packing companies began raising the price of beef and instantly they found that the people had begun to eat something else. The rise in beef stopped. If the rates on sugar are too high we shall start beet-sugar industries and make our own sugar. If the rates on corn and starch are too high we shall make our own starch out of our own grain. If rates become absolutely prohibitive we, can, as a last resort, raise a little of everything and help to build up such separate, independent, detached, self-sustaining communities as existed before railroads were invented. This last is fanciful, of course, but I am comparing the relative weight of the "musts" resting respectively on the farmer and on the railroad; and I say, tracing the matter to the very end, that if the people

## You Can Save Your Horse

from Spavin, Ringbone, Splints, Curbs and all forms of Lameness by a prompt and liberal application of that old reliable and well known remedy—

### Kendall's Spavin Cure

It has the unqualified endorsement of every man who has ever used it. Here is a sample of what thousands say for it.

WORTH \$200 TO THIS MAN.

Astoria, Ill., May 22nd, 1900.  
Dr. B. J. Kendall Co., Messrs:—Please send your Treatise on the Horse and his Diseases. Your liniment saved a horse for me that I expected to get \$200.00 for. It can't be beat and I will be very thankful for the book. Respy, C. A. CREBBS.

It is a most valuable liniment for family use—splendid for bruises, sprains, lame back, rheumatism, etc., etc. Sold by all druggists at \$1; six bottles for \$5. Our book, "A Treatise on the Horse," mailed free. Write at once and address

DR. B. J. KENDALL CO., Enosburg Falls, Vt.

shipped nothing they yet could live; but the railroad would die.

### COMPETITION, AND COMPETITION INTENSIFIED BY THE LAW OF INCREASING RETURNS.

But the great defenses of the farmer have been the law of competition and the law of increasing returns, and especially the former combined with and intensified by the latter.

Any Western road could carry twice its present tonnage, if secured at the right place and time, with a comparatively slight increase of total annual outgo. In this fact lies the great weakness and temptation of a railroad; this is one of the facts which has made competition so ruinous to revenues, more ruinous than in any other line of industry. It is paradoxical but true that a railroad can carry a large tonnage of freight at less than cost and yet at a profit. This simply means that if all the freights were carried at the low rate and the tonnage remained the same operating expenses would not be met; and yet it is true that the road shows a better net profit at the end of the year carrying the low-rate tonnage than it would if it refused to carry it. Nor can it be justly said—certainly not in all cases—that the low-rate tonnage is robbing the high-rate tonnage. The high-rate would have to be higher if the low-rate were not carried at all; the local rate would have to be higher if the low through-rate tonnage were not secured. The low-rate is in one sense unjustly low, in a certain true sense it is below cost as I have indicated. It is below cost if I be assigned its tonnage proportion of what I have called the invariable charges; and yet for various reasons, because of fierce competition, or because of the nature of the material transported, or because of the location of the markets, the unreasonably and unjustly low rate is all that the tonnage will bear.

To illustrate: A farmer in southwest Missouri or in northwest Arkansas clears off forty acres of woodland. There is absolutely no local market for his wood. But St. Louis wants wood and is getting it from various points. The price is low. This farmer's wood can not be marketed at all if anything like a reasonable transportation rate is to be charged and it must, therefore, be a total loss to the farmer; but because of the peculiar nature of the railroad business, as I have described, the railroad can haul that wood to St. Louis at a rate almost nominal and yet come out a little better at the end of the year than it would be without that additional tonnage. Accordingly the railroad is tempted to take, and does take, that wood at a nominal rate and the farmer gets something where he otherwise would have received nothing.

To illustrate again: Suppose that there are five through lines from Kansas City to Chicago, all reasonably direct and all passing through reasonably good local territory. Suppose, at the same time, there are a half dozen separate local lines in northern Missouri, Iowa, Minnesota, and Illinois, lines foolishly located perhaps in the first instance, lines beginning nowhere and ending nowhere, yet lines which the people very much wanted and which are serving the people and improving their condition; local lines obliged to charge high rates and even at high rates losing money or barely maintaining themselves and paying no interest on the investment. Now comes an enterprising promoter and gets control of these lines and builds a connecting link or two and lo! we have a zigzag, round-about through line from Kansas City to Chicago. There were these little local roads foolishly located perhaps, apparently destined to absolute bankruptcy from the beginning, yet there they were, and they could not be moved and they had to run; and now a promoter has got hold of them and there they are and they still can not be moved and they still must run. Being subject to the universal railroad infirmity, they can better afford to carry through tonnage at an almost nominal rate than to carry no through tonnage at all. And now you have all the necessary material for a suicidal, fratricidal, Kilkenny-cat war of competition such as no other useful industry can ever be subject to. Throw into Kansas and each of the other grain-producing States a million acres of land, bound to produce corn and nothing else and that can better afford to produce corn at 2 cents a bushel than not to produce it at all and you have some idea of the tendency of a situation like this on other roads from Kansas City to Chicago.

And yet not an adequate idea by any means. The farmer has the world for his market. The railroads are confined to the territory traversed by them. If nobody in Kansas wants corn, the farmer in Kansas can yet sell his corn in Nebraska, Iowa, Chicago, New York, or Liverpool; but if no one in Kansas wants transportation the Kansas railroad, as a Kansas railroad, has no market whatever.

Observe what a radical, generic, change in land transportation from the days of horse-power, the days when the common law of carriers was evolved. Then if a line of coaches did not pay from London to Edinburgh, it could be switched in the twinkling of an eye to Liverpool or Dover. And if ten coaches did not pay, the expense and the investment could be cut in two and five coaches only operated. The teamster had the world for his market. So to-day with the manufacturer, the miner, and the merchant, they have the world for their market. Their products may be sold and consumed anywhere. Even the retail merchant is not confined to a local market. If the market where he is, in Kansas, is bad he can box his goods and fixtures and take them to Iowa. But the railroad's product must be sold and consumed where it is. And yet we are told that the railroads are vast, arbitrary, rapacious, omnipotent powers, unchecked in their rapacity and greed by any of those laws which harness and restrain men in other lines of industrial endeavor! Is it not clear that the railroad's temptation to compete and to cut and to lower the price of the product is immensely greater than the temptation in any other line of business? A railroad man says, "I can sell this one shipper transportation at a half-cent a ton and yet not be out anything because I can so easily produce more transportation." The farmer or the miner can never say that.

### GREAT COMPETITION ON THE LONG HAUL.

But you say, after all, isn't it true, as we have so often been told, that the railroad is a monopoly? It is true to a certain extent. It is also true that the farmer who came to Kansas and secured possession of a section of land in 1855 with a stream through it, springs on it, and some timber on one side, and plenty of bottomland, and some pasture-land, and who holds that farm to-day, and has seen his land rise from \$2.50 to \$50 an acre is also a monopolist. This advantage of situation is his and his alone.

But let us see to just what extent, so far as it affects the farmer, the railroad is a monopoly. Take a station like Meriden, Kans., which has but one line of railroad. To what extent are the farmers about Meriden in the hands of a monopoly with arbitrary powers? In the first place the real market for grain is Liverpool. It is the transportation rate to Liverpool that effects the price of grain in Meriden, if railroad rates do effect the price at all. Now while there may be no actual, present, physical competition between two railroads at the city of Meriden, the moment the grain reaches the city of Topeka, a few miles away, there is competition. There are a hundred, yes a hundred, ways in which that grain might be transported from Topeka to Liverpool or to New York, a hundred routes it might take; I mean a hundred combinations which might be made; and there are hundreds of keen, shrewd traffic-men reaching out for that grain. It could go many ways to Galveston, New Orleans, Savannah, New York, Boston, or Montreal. The few miles from Meriden to Topeka, where there is no actual, present, physical competition, are not very much in the forty-five hundred miles that the grain has to travel. The important thing to the Meriden man is the rate on the long haul to Liverpool or to New York or to Chicago. If the long-haul rate be too high, his grain may be worth nothing at all. Although he is situated in a town where there is but one railroad, yet in shipping his grain to Liverpool he has the advantage of the fiercest possible sort of competition, the competition on the long-haul.

In territory like the western half of the Mississippi basin with industry organized as it is at present the long-haul is the matter in which the farmer is chiefly interested. What he produces is exchanged by the long-haul for manufactured products coming from the Eastern States and upon this long-haul he has, and has had, the benefit of a competition more fierce and insidious and calamitous, than any industry except the railroad is

subject to. Moreover experience has demonstrated that higher local rates have been steadily influenced to decline by the falling of the through rate; that low rates anywhere and under any conditions tend to undermine and supplant higher rates.

But more than this is true. A community which has but one railroad situated at a long distance from a junction with any other, is not, in the matter of rates, in the arbitrary power of a monopoly and unprotected by natural self-acting laws of commerce.

**COMPETITION IN POSSE.**

In the first place while there may be no competition in posse so far as concerns the short-haul to the first junction-point, there always is competition in posse, and with an intelligent management this competition in posse is a most powerful factor. This is an immensely wealthy nation. Capital and skill and enterprise and intelligence and nerve are extremely abundant. Rates of interest on capital are steadily going down. Capital is constantly seeking new investment. Intelligent management understands that any territory it now occupies alone is likely some time to be invaded and that unfair treatment of such territory is certain to hasten such invasion.

And such invasion is extremely easy. This is a flat, level country. There is no physical or commercial difficulty about paralleling railroads on the plains of Texas, Oklahoma, Kansas, Nebraska, and Dakota. In some mountainous territory presenting great physical obstacles to railway construction, a railroad may sometimes be likened to the Standard Oil Company which is said to have a complete control of the source of supply. It may in some cases be properly denominated a natural monopoly, but such is hardly the case in territory like this.

**FAR-AWAY COMPETITION—COMPETITION OF MARKETS AND PRODUCTS.**

Not only has the farmer the protection of competition in posse and the competition on the long-haul, and the other protections and advantages here indicated, but he has the protection of competition markets, a certain far-away competition among carriers of whom he never dreams. As I have said what is necessary to the life of a railroad is that everything possible shall be moved. Your corn must be consumed in England—must from the railroad point of view—and the moment transportation from India or Australia or any other part of the globe drops, or any change of condition takes place which enables any other land to sell wheat in England cheaper than we are doing it, the transporters must meet the cut. The railroads must have the meat tonnage from western Kansas and Texas to England; and the moment our market there is threatened by South America or any other country, either through cheapened cost of production or cheaper transportation, the railroad must cut its rate to hold the market and to keep and increase its tonnage. Thus, so far as transportation rates affect at all the profits of the producers of corn and cattle in the State of Kansas, such producers enjoy the advantage of a competition in carriage by the great steamship lines from India, Australia and South America to England, just as surely, if not to just as complete an extent, as if these great steamship lines sailed right along through the State of Kansas next the right-of-way of the railroads.

Not long ago I had an excellent illustration of the effect of this far-away competition of which some of us, perhaps most of us, would never have dreamed. There was in effect an extremely low home-seekers' passenger rate from Chicago to the Southwest. Trains were running full and rolling stock was taxed apparently to its utmost. One day this extremely low rate was cut squarely in two. It was beyond me to guess why this was done and I made inquiry. The answer was: "Jim Hill is carrying them for nothing and giving away cook-stoves and getting all the immigration into the Northwest." The answer of course was somewhat exaggerated but it gave me the explanation. Such far-away competition is always at work in one form or another and it is just as real as if it were not geographically remote.

Thus it appears to me that the farmer not only has the benefit of competition to a peculiarly acute and effective degree, but also the protection of other natural laws and forces some of which I have described.

**COMBINATIONS.**

But you say, "Conceding the fact, that, owing to the law of increasing returns and to the other matters adverted to, the temptation to the railroads to compete and cut rates is peculiarly great, yet the roads have been comparatively few in number and under intelligent management, and it has been easy for them to resign and resist the temptation."

On the contrary, the facts show they have not resisted it and are not now resisting it. It has again and again been publicly confessed that "Gentlemen's agreements" can not be kept, that the most solemn promises have proven ropes of sand. No sooner is an "arrangement" built up than the process of undermining begins. Rate wars, open and secret, general and special, make up railroad history for the past thirty years. Nothing better illustrates the irresistible workings of the law of increasing returns than the fact that many railroad men today are heard appealing to municipal law—with all that that implies—to save the railroads from the railroads.

**IMMENSE REDUCTION IN RATES.**

The average price per ton per mile paid by the shipper in 1867 was, in terms of gold, two and a half times greater than in 1897. This enormous reduction in the price of railroad transportation is unparalleled in any other line or product and has been the result of the natural laws and conditions I have described.

Not only has the price thus declined but the speed and facilities have at the same time been increased. Increased speed, safety and certainty in transportation is generally speaking that much saved to the shipper and is equivalent to a further diminution of the rate.

I take my figures from the bulletin of the United States Department of Agriculture issued in 1897 and beg to submit the matter somewhat in detail. All figures are according to the statement of the bulletin reduced to terms of gold so that the comparisons are real and fair.

In 1866 the shipper paid on the average for each ton carried one mile over the Rock Island road 2.40 cents, in '97 .95 cents; over the Michigan Central in '66 1.83 cents, in '97 .61 cents; over the Fitchburg in '66 3.05 cents; in '97 .87 cents; over the New York Central in '66 2.18 cents, in '97 .67 cents; over the Milwaukee in '66 2.77 cents, in '97 1 cent; over the Alton in '66 2.32 cents, in '97 .89 cents; over the Burlington in '66 2.60 cents, in '97 .78 cents.

On some of the roads above mentioned the shipper paid in '66 more than three times what he paid in '97 and in every case more than twice as much.

Now taking some roads which were not in operation as early as '66 or whose rate at that date were not given, we find the following facts: The shipper paid over the Burlington, west of the Missouri, in '77 4.79 cents, in '97, twenty years later, 1.28 cents, or a quarter as much; over the Louisville and Nashville in '67 3 cents, in '97 .79 cents, a little more than a quarter; over the Southern Railway in '69 4.42 cents, in '97 .97 cents, less than a quarter; over the Union Pacific in '70 3.59 cents, in '97 .95 cents, between a quarter and a third; over the Hannibal and St. Joseph in '70 3.19 cents, in '97 .61 cents, about one-fifth; on the Duluth and South Shore in '70 5.33 cents, in '97 1.10 cents, about a fifth; on the New York, Ontario and Western in '70 4.95 cents, in '97 .87 cents, considerably less than one-fifth; on the Mobile & Ohio in '70 4.11 cents, in '97 .69 cents, between one-fifth and one-sixth; on the Kansas City, St. Joe & Council Bluffs in '71 3.61 cents, in '97 .94 cents, being between one-third and one-fourth; on the New York & Pennsylvania in '71 5.38 cents, in '97 .61 cents, or less than one-tenth; on the Pierre Marquette in '73 4.15 cents, in '97 .75 cents, less than one-fifth; on the Atchison, Topeka and Santa Fe in '74 2.74 cents, in '97 1.01 cents, nearer one-third than one-half; on the Texas & Pacific in '75 4.51 cents, in '97 1.11 cents, less than one-fourth; on the St. Louis & San Francisco in '77 2.41 cents, in '97 1.11 cents, less than one-half; on the M. K. & T. in '82 1.60 cents, in '97 .59 cents, a fall of one-half in fifteen years; on the Denver & Rio Grande in '82 3.65 cents, in '97 1.60 cents, a fall of more than one-half in fifteen years; on the Gulf, Colorado & Santa Fe in '82 2.45 cents, in '97 1.08 cents, considerably less than one-half; on the Fort Worth & Denver City in '82 2.83, in '97 1.22 cents, less than a half in fifteen years; on the Oregon Railway & Navigation in '84 3.45 cents, in '97 1.63 cents, less than one-half as much; on the New York, Philadelphia & Norfolk in '84 7.31 cents, in '97 .93 of a cent; Oregon Short Line in '81 5.52 cents, in '96 1.05 cents, less than one-fifth as much after fifteen years. Taking the country over, the rate per ton per mile was in '67 two and one-half times the rate in '97. From 1890 to 1900 there was, according to the Interstate Commerce Commission, an average fall in the ton-mile rate of 22 1/2 per cent, and in the territory where we live a fall of 22 per cent.

Taking up some commodities which the farmer buys we find the rate on agricultural implements from New York to Buffalo represented in the year '67 by the figures 64 and in '97 by the figures 16; crockery in '67 55, in '97 13; starch in '67 55, in '97 13; sugar in '67 25, in '97 13; soap in '67 38; in '97 13.

On wheat from Chicago to New York the shipper paid in '67 per bushel 32.38 cents, in '97 12.50 cents; on corn in '67 30.22 cents, in '97 11.43 cents. This is by rail. The rates by lake and rail are less from Kansas City to Chicago, in cents per 100 pounds, the rate on wheat in '77 as 29 cents, in '97 19 cents; on corn in '77 25 cents, in '97 15 cents.

Passenger-rates are not as important to the farmer, neither are they as important to the railroad. The fall in passenger rates has not been as great as the fall in freight rates. But while the average rate per passenger per mile throughout the country has not fallen very greatly, it is true that the speed has been doubled and comforts multiplied; the increased comfort and the saving of time to the passenger being considered, I take it that the fall in passenger rates is equal to the fall in freight rates. I notice too that the nominal rates have fallen very materially on western roads. Thus, the Burlington in '77, on its mileage west of the Missouri, received per passenger, per mile, 5.49 cents, in '97 only 2.08 cents, the Union Pacific in '70 received 4.30 cents, in '97 2.10 cents; the Hannibal & St. Joe received in '71 3.84 cents, in '97 2.41 cents; the Kansas City, Ft. Scott & Memphis received in '71 5.19 cents, in '97 2.14 cents; the Kansas City, St. Joe & Council Bluffs received in '71 4.37 cents, in '97 2.52 cents; the Atchison, Topeka & Santa Fe received in '73 4.47 cents, in '97 2.23 cents; the Denver & Rio Grande received in '80 8 cents, in '97 2.82 cents. Thus these western

roads have not only greatly increased the speed and comfort of passenger trains but the rate per passenger per mile has in many cases been cut in two in twenty years.

That there has been a very great fall in rates and that present rates are very much below the rates of other countries seems beyond doubt.

**CAUSE OF FALL IN RATES.**

This vast diminution in the price of railroad transportation to the consumer certainly proves either that railroad owners are superhumanly compassionate and generous or else that their desire for gain and profit is evenly more completely and absolutely checked and controlled by natural laws than that of any other class of citizens.

For it was by the natural laws of trade and economics and by these laws only that this great reduction was produced. Municipal law may have accomplished something in the way of checking discrimination—its only proper field—but in the way of limiting the total compensation of the railroads it has done nothing. Indeed it has attempted to do little. The great bulk of the traffic is beyond State limitation altogether; Congress has as yet attempted no limitation; few States have ever attempted it; and the major portion of the decline took place before there was even any anti-trust act or interstate commerce law or any federal legislation whatever. It was accomplished by laws and forces purely natural.

The total earnings of railroads being, therefore, limited and controlled by natural forces, the presumption is, not that those total earnings are too large but that they are just and right; or, if the natural laws affect railroads more severely than other kinds of business, that they are perhaps too small; and the presumption is, not that it is wise and right for the State to cut down the total earnings of railroads, but that it is unwise and wrong. The ablest and most disinterested students of the railroad question—reached by various lines of reasoning—that railroad charges are not too great taken in the aggregate; and many of them agree that the matter of total earnings, or total net profits, may properly be left to natural laws.

One thing more I will say however before I close. The State spends considerable money through the Agricultural College, the State Board of Agriculture and other agencies, in the study of agricultural questions, in collecting and disseminating useful knowledge regarding this first great industry of Kansas. It does wisely. So also it would do wisely to maintain a body of students, call it a commission, or what you please, but a body of students, studying the railroad problem and collecting and disseminating knowledge regarding the second great industry of the State. It should be a body of students, with long tenure of office, competent men well paid; independent experts devoting their whole time to the subject, whose complete investigations and disinterested conclusions would command the absolute respect of the people and be an education not alone to the people and the shippers but to the railroad operators themselves. And I undertake to say that there is no man who ever served six months on the Interstate Commerce Commission or on any State railroad board who will not heartily subscribe to this recommendation.

**The Farmer and the Railroads.**

DR. HENRY WALLACE, EDITOR WALLACE'S FARMER, DES MOINES, IOWA.

To be more specific, there are five principal complaints which farmers rightfully make against the railroads of the country as at present managed: Discrimination in favor of certain persons and places (the word "persons" covering both natural and legal persons); false representation as to the cost of the roads or the improvements made on these State and National highways; excessive rates for freight and passenger traffic; interference on the part of the officers of the roads with State and National politics; and a failure in large part to so adjust freight and passenger rates as to develop to the utmost extent the varied resources of the country along these great highways, which are completely under their control and which are a natural monopoly, in the sections of country through they pass.

**DISCRIMINATION.**

We notice, first, discriminations by way of special secret rates, rebates, drawbacks, or nominal charges on freight carried in cars belonging to the shipper. When W. K. Vanderbilt, Jay Gould and J. Edgar Thompson entered into a contract with the Southern Improvement Company, now known as the Standard Oil Company, by which they granted it a rebate of from \$.40 to \$1.36 per barrel of oil carried for it, and likewise paid it a commission almost equal in amount on all oil shipped by rival companies at the published rates, they by that act gave the Standard a monopoly of the oil refining business and made it impossible for either the producer of the oil or the consumer to deal with any other. They wrecked thousands of business enterprises and obliterated millions of capital in other hands.

But that was the least part of their offending. They enabled a few men closely bound together to amass an amount of wealth now estimated at one billion dollars, which by its own force largely dominates and controls not only the railroads of the United States, but is a controlling element in many of the great trusts, of

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which the people, the country over, now so loudly and bitterly complain. When called to account by a Congressional investigating committee, their justification was "the magnitude and extent of the business. In plain English, they acted on the theory that the roads they controlled were their own private property and that, irrespective of the interests of the public, they had the right to enter into a contract which promised to be a benefit to their various companies by arresting competition among themselves and giving them a large regular amount of business which at the special rate was highly profitable. In other words, they claimed the right to give one company practically the sole use of the highway for the transportation of this class of freight and exclude all others, thus ceasing to be what the law required—common carriers. For a rebate, whether large or small, whether on oil, or beef, or grain, invariably ends in a practical monopoly of the railroad to the party or parties receiving the rebate for that class of freight.

I refer to this bit of ancient history, reeking as it does with corruption which can not be sanctified by the gift of millions for education or charity as an insurance against future fire (or other future punishment), because it differs in kind but only in degree from the discriminations by way of rebates, drawbacks, and other methods which are in vogue today in the West as well as in the East. It is true that we have cheap oil as compared with the price in the 60's, but he would require prophetic ken who could truthfully say that this is the result of railroad discriminations producing monopoly in view of a like decline in prices of other products during the same years under competition. In fact, prices of oil had begun to decline before the monopoly was established.

We need not, however, go so far afield for an example of the lasting injury done to persons and places by like discriminations given from the same motives and producing like results to the general public.

Have you ever asked yourself the rea-

son why the great packing industries of the country are, with but few exceptions and these of small magnitude, all located at Chicago or on the Missouri river? Why have Iowa cattle to go out of the State to die and brought back to be eaten? Why has it never been profitable to slaughter cattle at Des Moines, in the very center of the greatest beef and pork producing district in the world? Why does not the packing industry flourish at Wichita, Fort Worth, Denver, Topeka, Indianapolis and Cincinnati as it does at Chicago or on the Missouri river? The best answer I can give is an extract from a speech of the Attorney General of the United States at Pittsburg a few months since. He said: "The interstate commerce commission also held an investigation, and reported to the department of justice that the six largest meat packing concerns, popularly known as the 'beef trust,' were in combination with each other and with many great railway lines, whereby they secured large secret concessions in rates for the transportation of their products which enabled them to practically monopolize the fresh and cured meat industry of the United States. Acting upon this information, which disclosed definite and probable facts, bills for injunctions were immediately filed against the principal railroads implicated to restrain them from giving preference to any shipper in the rates or facilities of transportation. In March last there were instituted by the government in the United States circuit court at Chicago six suits in equity against offending railroad companies; and, simultaneously eight additional suits were begun against other railroads at Kansas City."

Looking at it from the standpoint of the railroads, it is very easy to see why the discriminations above referred to were made. It is much more profitable for the railroads to do business in a wholesale way than retail; hence, they give low rates to points favorably located rather than allow the business to spring up at scattered points in the live stock territory. By giving special rates to these points having the required facilities, they can concentrate the packing facilities.

Again, the railroads universally desire the long haul and for reasons that do not need explanation, and by concentrating the traffic on the Missouri river and at Chicago, the great gateway to the East and outer world, they secure two long hauls, one east in live stock and one west as well as east on the products. These low rates being set above the cost of the service, competing roads are quite willing, for the purpose of increasing business and profits, to grant secret rebates to individual packers at these points; if by so doing they can secure a larger portion of the business. They figure that having the road and the equipment, any rate above the cost of the coal, the oil, and the labor necessary to move the freight brings them a profit. In this they assume that the road is private property to be conducted like any other private property and without the slightest regard to the rights of the public.

How is the farmer injured? In many ways. The wiping out of the local butcher destroys the farmer's market for the single animal or anything less than car-load lots. We in the West do not feel this to the same extent as other sections for we do things in a larger way, but in the East the effect has been most disastrous. The concentration of the packing business at a few western points has made beef growing unprofitable east of Indiana. This has compelled the sale of farm products, with the exception of butter and cheese, in a crude form. When the grain, the hay, and the straw are sold off the farm for fifteen or twenty years, and where there is no source of manure outside the farm, the humus in the soil is exhausted to such an extent that the land becomes so impoverished that it sells at only from one-third to two thirds of the price of thirty years ago.

Unless the Federal government interferes in a very short time, these packing companies will be merged into one and then there will be, as in the case of the Standard Oil, really but one buyer of live stock and but one seller of dressed meat. Farmers all know what that means. They will not cease to grow live stock. They will always receive a price that will encourage them to continue, but they can rest assured of one thing, that any surplus of profits beyond that necessary to induce them to continue the business will not go into their pockets but into the treasury of the combination. The only remedy for the present conditions and the worse conditions probable in the near future is a just freight rate, or toll, to those who use the highway—such freight rates as will establish packing houses wherever the conditions suitable (apart from freight rates) exist, thus giving competition and bringing the great packing centers as near as possible to the people who grow cattle.

This, however, is not all. When a railroad gets into the habit of discrimination, it is as willing to discriminate in favor of the foreigner as the American citizen. A few weeks ago the interstate commerce commission made an investigation of the rates on imports and Mr. C. S. Wight, Freight Traffic Manager of the Baltimore & Ohio presented a schedule of rates which showed that on imports from New York to Chicago the rate is 18c per 100 pounds, while on domestic commodities of the same class it is 65c. A merchant in Des Moines who deals largely in imported goods was complaining bitterly to a friend of the recent advance in the freight rates on imports since the organization of the shipping combine. The advanced rates were, however, only from one-third to one-half of the rates on the same kind of goods from New York.

The Western farmer has paid cheerfully high tariffs for the protection of American manufacturers, believing that by so doing he was building up a home market. (Whether correct in his views or not, this is not the place to discuss it). It is worth while to let him know that while making such sacrifices for the development of the resources of his own country, the railroads by their discriminations are giving the foreigner an advantage which tends to undo all his efforts. That they are enabled to do this and still make a profit throws a flood of light on the unreasonableness of existing railroad tariffs.

These various violations of the law of the highway have amassed such gigantic fortunes in the hands of the packers that they are enabled by loans secured by chattel mortgages on cattle and by the ownership of ranches and feeding farms to control a very considerable part of the business of growing and feeding cattle. In this last they can again secure rebates from the railroads to the injury of the private feeder, for if a man can secure rebates for the transportation of other men's cattle, he will have very little difficulty in securing them for his own, and the less so if he be a director or in close touch with the leading officers of the road.

Nor is this all. These vast accumulations of capital in the hands of receivers of rebates enable them to dominate and control other lines of business on railroads and here again obtain rebates, or other discriminations, in their favor. The Armour, for example, control all, or nearly all, the grain elevators on the Milwaukee lines. There is in fact scarcely a leading line of railroad anywhere on which the elevators do not belong to some one man or firm, and even where other men or firms own elevators on these lines they are obliged as a matter of fact to ship through this one man. Why? Because he can ship cheaper than they can. Why can he do this? Only because he has a secret rate, rebate, drawback, or some other method of securing transportation of his grain at lower rates, thus giving him a monopoly of the road for this purpose. As to the correctness of this statement, I need only point you to the speech of the Attorney General of the United States made at Pittsburg, heretofore quoted, as follows:

"In Kansas City, it was asserted that local dealers had been excluded from participation in the grain trade; that their elevators for the storage and trans-shipment of grain, built at great expense for the demands of an important market had been deprived of business; and that large numbers of laborers had lost employment and remained in idleness solely because of the diversion of business from its natural channels as the result of this forbidden monopoly in the purchase and transportation of grain. The board of trade of that city presented a complaint to the interstate commerce commission, and that body conducted an investigation which disclosed, with convincing particularity and detail, the facts already summarized. That they are true in substance and effect is not seriously disputed in any quarter."

This may interest you all the more because it comes very near home and accounts for a movement all over this State to establish co-operative elevators through which you may be able to ship your grain and get its full market value. Except in the case of these few co-operative elevators, there is even now but one buyer for your grain on any line or road. I need not tell you how this affects the Kansas farmer.

Similar rebates are granted on every line of business and the fact is seldom denied by intelligent men. They can not always be proved except by the fact that one elevator or shipper can move the stuff at a profit, and another elevator equally well managed can not. On this point I quote an extract from a letter from a Kansas farmer to whom I had written asking what were the particular grievances against the railroads of which the Kansas farmers complained. This gentleman writes:

"I want to say that I have no particular grievance. I belong to the 'favored nation' class. It is to my interest to have the status quo continued, considered from an individual angle, but as a citizen I can not help but see that it is bad public policy for my pocket to be replenished

**The Cost of Repairs**  
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from the pockets of my neighbors by an institution that is in effect an adjunct of the State. The financial feature of this question is not the great feature. The thing that will cause the heaviest reckoning when the day of reckoning comes is the sense of injustice and wrong felt by, say nineteen-twentieths of the shippers and producers; that in the race of life these corporations put some of the competitors forward 'out of sight' and compel others to remain near the starting point. And if the railroads now enter the plea of confession and avoidance, is there to be no explanation for the crimes already done or the injustices already set up? Ever since the Camden & Amboy railroad owned the State of New Jersey, thirty years ago, the railroads have set a pattern of molding laws in the making of them and disregard for them after they are made that, in the feeble imitation of the humble, set us aghast. No railroad company, says the Kansas statute, shall charge any person a greater sum than it charges any other person for a like service. That law was passed in 1883. I doubt if it has had the least effect in preventing rebates, or concessions, or free carriage of freight or passengers. Two years previously the prohibitory law was passed. It is and has been a dead letter. How shall we expect a poor, despised jointer to obey a law made for him while the great railroad magnates ignore the law made for them. Emma Goldman teaches an obscure night school of anarchy compared with the post-graduate university course taught by the railroads of this country."

This is testimony from Kansas and by one who, as he says, is in the "favored nation" class. But the moral effect is even worse than the financial. We American farmers pride ourselves on our manhood, on our independence, on our ability to pay as we go. We are not cabbles, nor waiters at a hotel table, nor even porters on a Pullman car. We scorn to receive bribes, or to sell our votes, or to be treated as underlings, yet how much better is the moral position of the merchant or shipper who solicits rebates in order to overbid a competitor and drive him out of the market? It develops in him an obsequiousness to railway magnates that is wholly out of harmony with American manhood, and a craven fear lest some rival may have a lower rate. It is not a good sign when individuals and communities feel that their well being depends on a rate which if given to themselves means prosperity, but, if given to the other fellow, means adversity and ruin to themselves. This is not the soil out of which grows a vigorous, robust manhood, and when the rate is received there is deep down in the inmost heart a feeling that it is all wrong.

On this subject of discriminations, I have perhaps said enough to satisfy you of the injustice and wrong done to the whole people by the discrimination in favor of wealthy persons and favored places. Kill this upas tree of discrimination and the trust problem, which vexes us sorely, will soon settle itself. Give every man equal rights on the National highway, and the country will enjoy a prosperity undreamed of even yet.

**WATERED STOCKS.**

The second ground of complaint which the farmers may rightly urge against the railroads is the universal practice of watering their stocks; or, to put it in plain though not polite English, lying about the cost of their improvements on the public highway. I have met frequently in the last fifteen years with representatives of the leading railroads of the West before the Iowa Executive Council when the subject of the just taxation of railroads was under discussion and with equal frequency with the railroad committees of the Iowa Senate and General Assembly when legislation was proposed affecting railroad rates, and I have always noticed that when the question of taxation was under consideration the railroads were worth little—very little, indeed. They could be built at anywhere from \$4,000 to \$15,000 or \$20,000, or perhaps \$30,000 per mile, according to the character of the road. When the question of freight rates was under consideration, the road which cost \$4,000 per mile was worth from \$15,000 to \$20,000 and the road which cost \$20,000 was worth \$40,000. It is a matter of common fame that the railroads of the West have

been built and equipped for the price of the bonds. The stocks at first are watered; or, to put it in another way, the expectations were capitalized, or in still another way, the expected unearned increment accruing from the development of the country is pocketed in advance. The railroad is the only person or corporation that does business entirely on borrowed capital and that owes in advance all it is worth. That is what building equipping a road on its bonds means. Railroads are expected to make interest on bonds representing their entire cost, and full value and a dividend on an equal or greater amount of expectations. This is the reason that nearly all roads when first built pass into the hands of receivers. This was the expectation and often the intention of their promoters from the very first.

The farmer does not object to a capitalization equal to the cost and equipment of the railroad if honestly built and wisely located. He does not object to capitalization representing actual improvements. He does not object to the consolidation of branch lines with the main. He favors all this. He is willing to chip in with right of way, taxes, donations, and gifts of public land, to enable the road to tide over evil days at the outset. He is willing to help infant industries, honest ones, but he is not willing to be taxed by way of freight and passenger rates to pay interest on water and often, after it has grown to lusty manhood, on the very gifts he has bestowed on the infant. How great this excessive capitalization is in Kansas, I need not tell you. You may be quite sure that it is much greater than the actual cost of construction and equipment. Your reports give the capitalization of the C. B. & Q. in your State at \$38,000 per mile, the Rock Island at \$36,000. If there is water in these, and there surely is, for they can be built even at the high prices of today for a good deal less money, what must be said of the St. Joseph & Grand Island capitalization at \$53,000 and the Union Pacific at \$106,000?

Of course, it will be said: "What matters it?" Nothing, if the railroad were a purely private enterprise and not a public highway. It matters nothing to its readers whether the capital stock of Wallaces' Farmer is \$20,000 or \$200,000, but if it were a monopoly as the railway is, if farmers were absolutely obliged to subscribe for it, if, moreover, it could go into the courts and resist any reduction in subscription price that would not pay some interest on its capitalization, it would then be a matter of very serious concern to every farmer. Wipe out your excessive capitalization; tell the truth about what the actual cost of these roads has been, if that be now possible, and if not put the capitalization at the cost of building them today, and the Kansas farmer will not complain of rates that will give a good interest on this cost. He will be a willing purchaser of the stocks and bonds of every well managed road, and in that case there would be no railway question in Kansas. Men never quarrel either with their bread and butter or their pocketbooks.

Of course, I am well aware that the claim of high freight rates on the basis of cost is all the merest humbug and that in the making of rates no railroad man ever gives it a moment's consideration. It does become, however, a very important matter when State legislatures enact tariffs and the railroads resist them by going into the Federal courts and showing, or attempting to show, that the rates enacted will not furnish dividends on the bonds and some rate of interest on the stock, and, therefore, are confiscation of private property for the public good.

The amount of water, however, in the roads in the process of construction, which water seldom is squeezed out even by foreclosure, is not the most dangerous feature at present. Where this water does not prove sufficient, additional water is being poured in and in amounts that stagger the imagination. The favorite method of pouring in water in the last two or three years has been that of the capitalization of earnings. I note two conspicuous examples in companies that have lines running through your State, the C. B. & Q. and the C. R. I. & P. These roads have shared in the great and general prosperity of the country in the last four or five years. Their stock has been selling around \$200, or double the par value of the shares. In the case of the C. B. & Q.



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this stock has been taken up and bonds issued for the sum to double the amount and drawing four per cent interest. They become, therefore, a mortgage on the road, thus securing the owner of the stock, who has exchanged them for bonds, from taking any chances on the hard times which follow every period of great prosperity and wild speculation. Inasmuch as the mortgages of the road and the capitalization, so far as it can be made to earn interest, is a mortgage on the farms tributary thereto, you will readily see that by this movement an additional mortgage has been placed on every farm on the line; that is, the farmers along the line must pay enough freight and passenger rates to pay this eight per cent interest on the original stock or on the mortgages that are now representing it, or else the road must go into the hands of a receiver.

Worse than this, however, is the sleight of hand performance of the Rock Island in which, by a very shrewd evasion of the Iowa law (Iowa being its legal home), a capitalization of \$75,000,000 was swelled to \$202,000,000 and the future management of the road placed in the hands of the owners of a little over \$50,000,000 of stock. This is stock watering with a vengeance and the worse because all this stock, with the exception of the \$50,000,000 and over, is really bonds.

You may not have found it on the records, nor will you, but it really amounts to an increased mortgage on every acre of land along the lines of this road in your State. Were these roads purely private enterprises and not public highways, were they not in the nature of things monopolies, this would be no concern of any person outside of the stockholders. It is the privilege of every man to call a five cent piece a dollar if the contemplation of his supposed wealth affords him any satisfaction, but it is a matter of very weighty and serious import to the general public when the capitalization of the improvements on the great National highway on which the farmer must pay toll, and whatever toll the keepers of the highway require, is increased in these alarming proportions.

**FREIGHT AND PASSENGER RATES.**

The next ground of complaint on the part of the farmer against the railroads is their excessive freight and passenger rates. It will be objected at once that we have the lowest freight rates in the world. I will not stop to inquire whether this is true or false. We have much cheaper freight rates than in densely populated England and they are about one-half of the rates prevalent in Ireland. Our local first-class passenger rates are the same as their second. Their first-class rates are a little higher than our first-class with sleeping car rates added. Their third-class rates are a little higher than our round-trip rates. Our freight rates may be excessive, for distance cuts but little figure in either freight or passenger rates; a little more labor, a little more oil, a little more coal, that is all the difference between the short haul and the long.

By an unwritten law among railroads the road that collects freight and delivers it after a haul of ten, twenty, or forty miles to the road that hauls it three or four hundred miles gets 40 per cent of the rates. The trolley line that collects and hauls freight from ten to twenty miles and delivers it to a road that hauls it three hundred miles can easily get 60 per cent of the total rate. Long hauls, such as we have in America, should be very cheap, for this is a country of magnificent distances and the freight rates should be the cheapest in the entire world because of the length of the haul, the great volume of business, and the abundance of back loading.

It is useless to say that the larger cost of our roads requires high freight rates. The English and Continental roads of equal construction cost three times as much as ours. In point of fact, no rate maker takes any thought either of the capitalization or of the cost of his road in making rates. These figure only when the legality of the State-made rates are at issue before the Federal courts or in the lobbies of State legislatures when railroad legislation is impending, in which case the poor widow who has invested her earthly all in stocks and bonds is brought forward as of old, only with new crape and a fresh supply of tears, to beg the tender-hearted legislators not to confiscate her property by reducing freight and passenger rates.

There is not now, nor has there ever been, but one rule of rate making, namely, what the traffic will bear. I see from one of the reports of your railway commission that a Kansas rate-maker, original as we should expect him to be after breathing Kansas air for a little while, has invented a new way of putting it, namely, "whatever will move the stuff." And that is all there is in rate making.

A railroad official tells me that there were, December 31st, 3,000 special rates in operation, all of which were to be canceled that day. I said: "Tell me about these special rates."

"Well," said he, "Smith & Jones have five hundred cars of grain which I am offered in preference to other roads provided I will take it for less than the posted rates. I give notice of a special rate that will move the stuff and cancel it when the shipment has been made."

These rates are offered only at competing points. Always and everywhere the motto of the road is "the rate that will move the stuff."

And this rate question will be your greatest grievance in the future. Discrimination will to a great extent disappear in the near future, and from two causes; the consolidation of the railroads into systems

and the merging of these into mergers or security companies, when they will all be under one management so that it will matter nothing what road does the business.

Again, the Federal courts, which usually lock the stable after the horse is stolen, will issue injunctions against secret rebates which again will simply hasten the mergers. When this is done rates will be advanced because the traffic will bear more. There will be but one way to move the stuff and it will have to go that way or not at all. That movement will begin very soon; in fact, it has already begun.

Speaking at a meeting of the American Economic Association at Philadelphia, December 27, 1902, on the "Public Regulation of Railroads," Interstate Commerce Commissioner Charles A. Prouty said:

"Five years ago the crying evil in railway operations was discrimination between individuals. Today this is not true. The discrimination disappears, but in its place comes the danger attending every monopoly—extortion in the charge imposed. As these combinations have proceeded, the public has been repeatedly assured that there was no danger of any advance in freight rates. Rates have been advanced and are still advancing. In the winter of 1899, the rate on grain from the Mississippi river to New York fell to 12 cents per hundred pounds; today it is 22 1/2 cents. The cost of transporting grain and grain products from Chicago to the Atlantic seaboard by rail last summer was from 2 cents to 5 cents per hundred pounds (from 10 to 25 per cent) greater than it was the summer preceding. Within the month all grain rates in every direction from the fields to the seaboard have been advanced another 2 cents per hundred pounds. Within the last three years the combination of anthracite coal roads has increased the cost of domestic sizes to the consumer from \$1 to \$2 per ton. In sympathy the common stock in the Reading road alone advanced in market value from July, 1898, to July, 1902, \$45,000,000, or about 300 per cent.

"There are now pending before the commission for investigation complaints which demand reductions probably amounting in the aggregate to \$15,000,000 annually, equivalent upon a 4 per cent basis to almost \$400,000,000 in capitalization. The railroad is the greatest and most dangerous of all monopolies. If the anthracite coal combine advances the price of that commodity to the consumer \$1 per ton, it levies on the poverty of this country, which uses that coal, a tax of \$50,000,000 annually in favor of the wealth which engineered and profits by that combine."

The excuse for the recent and contemplated advance in freight rates is that there has been a recent increase of 10 per cent in the wages of the working men of all classes in the railroads, or, in other words, "in the cost of living" of the corporation. These men are certainly entitled to this increase and more for the cost of the living of the man has so increased in recent years that the wage worker is no better off than he was in 1896, provided he had steady work then, but this is no reason why 10 per cent should be added to freight rates.

Why is it not a good reason? Because by reason of better grades, better road beds, straighter curves, larger locomotives, and larger cars, the cost of moving a ton of freight has been decreased far more than the rate of wages has been increased. A few years ago when you Kansas people were moving heaven and earth to get a low rate on corn to the Gulf, I was riding with a prominent official of the Northwestern railway and said to him that the farmers of Kansas, Nebraska, Missouri, and Southern Iowa would not always pay freight on the long across-mountain route to the seaboard when nature had provided them with a short down-hill route to the Gulf.

"Let me tell you something," said he. "The Northwestern is building a double track from Chicago to Council Bluffs; it will be ballasted two and a half feet deep so that frost can not move the rails; it is being laid with 94-pound rails, and when this is done we can haul 40 cars of 40 tons each with one locomotive and crew and make more money hauling grain from Council Bluffs to Chicago at 10 cents per hundred than we can at the present rate."

All that has since been done, but instead of the rate being lowered it is likely to be advanced. Freight rates on grain and live stock are low now compared with thirty years ago, thanks to agitation and granger legislation in States and Nation, but owing to improvements in transportation there is more profit in the low rate than there was in the high. The railroads never made as much money as they are making now.

The following figures, taken from the reports of the Interstate commerce commission, are interesting reading just now. The net income, after paying all expenses and fixed charges, together with large amounts which have gone into improvements, of the railroads for 1897 was, in round numbers, \$81,000,000; in 1898, \$145,000,000; in 1899, \$164,000,000; in 1900, \$227,000,000; in 1901, 241,500,000. The amount of earnings devoted to maintenance of the way increased from \$115,000,000 in 1895 to

\$220,000,000 in 1901, and to maintenance of equipment from \$108,000,000 in 1895 to \$184,000,000 in 1901. Notwithstanding all this, the companies were able in 1901 to declare dividends amounting in round numbers to \$30,000,000 greater than in the preceding year. Certainly these figures taken from a source of the highest authority fail to show any reasons why additional tribute should be levied on the farmers of Kansas.

The railroads have a queer way of arguing on the question of rates. When the traffic is relatively small, their argument is that the rates should be maintained or increased because of the increased cost of doing the business. When the traffic is large, larger in fact than they can handle properly, the argument is made that the rate should be increased because of the increase of traffic. It might be reasonable to argue that the tolls on the turnpike should be advanced on account of the small amount of travel, but for the turnpike company to ask for an increased toll because of the magnitude of travel would be laughed out of court. As previously stated, the railroad is simply a public highway and the absurdity of increasing the toll on the public highway because of the large amount of business is too ridiculous for serious argument.

These threatened increased rates should meet with a mighty protest from the Kansas farmer. If paid without protest, it simply means an advance in the value of stocks already inflated beyond reason and a more general conversion of these stocks into bonds, thus increasing the fixed charges, which in all cases are an unwritten but none the less real mortgage on all the farm property tributary to the road. For if this rate increase is endured, if your silence gives consent, when the day of reckoning comes, as come it will when a glut of goods puts out furnace fires in the East and there is no paying market for your stock or your grain, a cry of oppression will go up from these prairies, the like of which has never been heard before, and the time serving politician may hunt his hole and there do some unwonted praying with neither hope nor promise of a favorable answer.

It requires no prophet to predict that if rates are advanced under present conditions, resulting in an increase of values in railroad stocks, and these are converted into bonds, giving the same total income in bad times that the stocks do in good times, it will be only a question of time when the farmers of the West will be in bondage to these great corporations. There is no means of bringing them into bondage so rapid and efficient as the increase of rates, leading to increased dividends, increased values, and the capitalization of these values into bonds, as has been done both by the Rock Island and the C., B. & Q.

**IN POLITICS.**

One of the most serious grounds of complaint which the Western farmer has to make, not so much against railroads in themselves, nor against all railroads, but against the men who manage some railroads, and these sometimes not in all States through which the road passes, showing that the ground of complaint is rather against the officers of the roads than the roads themselves, namely, their interference in the politics, or rather in the political management, of the State. The American citizen prizes above all things else his right of suffrage, or the right to do his part in the government of the State. He should pride himself not merely on the right, but on the actual exercise of that right and the effective exercise of it at the effective point. In other words, he should see that his will is carried out not merely at the precinct, but that the sentiment of the majority should be rendered effective at the Capitol. The fact that some railroads, either with the consent of their general officers or without, take an exceedingly active and offensive part in the management of political conventions and in influencing at the Capitol during the sessions of the legislatures is entirely too well known to require argument or proof.

In discussing the railroad question, we must never lose sight of the fact that the railroad is the highway absolutely essential to the prosperity of the country, that it is a natural monopoly, and that the managers are simply the keepers of the highways and as such the servants of the people. That wise old fellow, Solomon, once noted down on his ledger that "for three things the earth is disquieted, yea, four which it cannot bear," and one of these was a "servant when he reigneth." The railroads were chartered, encouraged and aided with donations and lands that they might be the servants of the people. What right have they, therefore, except as individuals and in their individual capacity, to meddle in any way with the legislation of the State or Nation? The reason is because they are afraid of granger legislation. Will the people quarrel with their public highways or with the management of them without reason? Do the farmers, which compose the majority of the population, ever organize to oppose any body? Do the railroads which pay no attention to politics fare worse than the few that are in politics all the time?

To ask these questions is to answer them. The people naturally have no more motive to quarrel with the railroads than they have with their bread and butter, for they are as essential to the actual securing of the bread and butter as the lands are themselves. It is only under the stress of financial suffering that the people take a hand in correcting well known abuses and when this is done they go their ways, one to his farm and another to his merchandise.



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This evil is one that is very deeply rooted. There is usually at every State Capitol what might be called the permanent lobby, which is especially active at conventions and during sessions of the legislature. It is not made up entirely of officials of the railroads, but of men, some of whom may have political ambitions and others of whom are in it not for the office nor yet for their health, but for the purpose of blackmail in the shape of cold cash as a reward for promoting or suppressing legislation. These men usually have close relations to railroads or their officials, sometimes, in fact, are secretly on their pay roll and are thus able to secure passes by means of which they can pack political conventions and bring influence direct from home to encourage or to intimidate weak-minded, good-natured, but undiscerning and unsuspecting representatives. They can thus defeat legislation aimed at the correction of railroad abuses and frequently secure the nomination of railroad commissioners who

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will act as buffers between the railroad and the people and defeat the very ends for which railroad commissions were established.

They can, furthermore, secure the nomination of judges who ride on free passes unblushingly, which the railroads are quite anxious to give, and secure also the election of senators and representatives who have no hesitation in accepting not merely annual passes, but telephone, express and telegraph franks. Under these circumstances, how can farmers and business men expect their will, which they intended to make known at the polls, to be enacted into laws? I think somewhere, either in Solomon's proverbs, or the constitution of the United States, or the Declaration of Independence, or some other hoary and respectable authority, or perhaps my grandmother told me half a century ago, that this is a government by the people, or that all power is vested in the people, or that governments derive their just powers from the consent of the governed, or words to that effect.

I believe this is true in your townships, to a limited extent in your county government, but do you Kansas people really believe that your farmers, who comprise the large majority of the State, have very much to do in governing Kansas? I hope you have, but don't believe it. You can if you will, but not until you attend your political conventions for the purpose of choosing the best men in your party, and you will never do this until you pay your railroad fare and hotel bills when you attend them, nor will you ever do it until you put your loyalty to right, justice and equity above your allegiance to your party. If the farmer goes to his farm and the merchant to his merchandise and allows men who want the trip to go to the convention on passes and good-naturedly vote for the candidate of the men who gave them the passes, do not let me hear you complain. Jonah, even when he knew he was recreant to his duty, "paid his fare and went." Until that time you will have a government quite as free from corporate influence as you deserve. In fact, every State, city, and county, no matter how bad the government may be, has as good a government as it deserves. If you are not satisfied you have the remedy in your hands, although it may cost you some time and money. What is your citizenship worth if you are not willing to go to some expense and trouble in exercising it?

This pestilent interference of railroads in the politics of the State and Nation is like what the Good Book tells us about the imaginations of man's heart—"evil only evil, and that continually." It creates a bitter feeling between the railroads and the people, between whom there should be that close friendship which their mutual interests and mutual dependence require. It tends to make every grade cow killed by the cars a thoroughbred of the bluest blood, every bruise in a railway accident a broken bone, and every slight scare a case of nervous exhaustion. If the railroads would keep altogether out of politics and cut themselves loose from the gangs of lobbyists in the State capital, and send their broadest-minded men to present with perfect candor and honesty their interests before legislative committees, it would do away with a vast amount of the prejudice which now exists in the mind of the honest stranger against railway corporations.

When I was a little boy and under moral, mental, and sometimes a threat of physical compulsion to recite the Shorter Catechism on Sabbath afternoons, I learned the distinction between sins of commission and sins of omission. I have had a good deal to say this afternoon about the sins of commission committed by the railroads. I have thought it well, therefore, to vary the program and rest you up a bit by concluding with one or two sins of omission.

Bearing in mind always that the highway is made for the country and not the country for the highway, it would seem to be a common sense proposition that the keepers of the highway, who also are the carriers on it, should provide every facility for the free and expeditious movement of traffic. The entire country, from the Atlantic to the Pacific, has been complaining of the deficiency in the means of transportation and of the famine of both cars and locomotives. Kansas farmers complain that they cannot get grain cars when they want them. Stockmen complain that they cannot ship their stock when it is ready to go, that when shipped the trains are delayed, often arriving at the market after the buyers have filled their orders, and have to be kept at great cost, both in money and shrinkage, until the following day. It seems to me that all this shows a pitiful lack of business capacity somewhere. Every other line of business tries to ascertain the amount of business in view and prepares to meet it. The newspaper makes additions to its buildings, presses, and office force; it is the same with the manufacturer, the merchant and with every other class of business men. Not only that, but they aim to have a reserve force which can be called upon in an emergency so that the work can be done with the greatest profit or at least without loss in unforeseen emergencies.

The amount of business to be done by a railroad should be capable of being ascertained with at least reasonable accuracy months beforehand. The station agents along the lines in Kansas ought to be able to report the acreage and crop prospects of the country tributary to their stations, the number of live stock on feed, the number of feeding cattle shipped liable to be brought in, or fat cattle shipped out, should be able to estimate with rea-

sonable accuracy the amount of in haul, whether coal or merchandise. This would be simply good business. Delays would occur in securing equipments, especially in times like these, but they need be no longer and no greater than occur in every other line of business.

Through traffic cannot be so readily provided for, but it can be measurably anticipated. All this, it may be said, is easier said than done. Certainly it is, but it can be done as easily in railroading as in any other line. The business man who has no monopoly knows that if he does not get ready for business his competitor will, and he gets ready. If he has a monopoly and knows the public must wait with what grace it can and with what loss it must, he will let the public wait. But even this does not pay. The people feel kindly toward a railroad, even if it has many shortcomings, if it gives them good and prompt service. They are cross and ugly when the service is poor. Who can blame them? Can not the railroads see that if the delaying of stock in the shipment loses the shipper money, the farmer will have just so much money less to spend? that every bushel of potatoes or apples lost for lack of transportation, or frozen in transit, impoverishes the farmer just that much? And if the farmer is impoverished, the railroad, which is responsible, shares the loss. For farmers are free spenders in buildings, in living, in travel, and it is to the interest of every railroad manager to enrich the farmer to the utmost of his ability. Self-interest, if nothing else, should lead the railroads to provide themselves in some way with an equipment competent to handle the business.

DEVELOPMENT OF THE COUNTRY.

Again, the keepers of the highway, as a rule, have failed to realize that their best interests and greatest prosperity lies in developing to the utmost of their ability the natural resources of the country through which their highway passes. It has been a matter of amazement to me for twenty-five years that railroad officials scrap, cut rates, form combinations to keep from cutting rates which they proceed in the next hour to break, and at last appeal to the government for help to keep them from cutting each other's throats, and all over traffic at competing points, which they must in any case divide, and at the same time neglect to get as much freight and as many passengers as possible from non-competing points in which they have a natural monopoly.

When hard times come it seems to dawn upon some of them that they might do something to encourage the farmers to grow more out freight and thus be able to build better houses and barns, to live better, and thus make more in freight and go to their old home oftener or send their wives and daughters to visit their relatives. In the hard times of 1896, I was appealed to by more than one railroad to travel with a railroad official from station to station along their lines and hold institutes for the organization of creameries and the introduction of better methods of farming. I have not been asked to help in this work for four years, nor has anyone else.

"When the devil was sick, the devil a monk would be;  
When the devil got well, the devil of a monk was he."

Kansas has a great wealth of undeveloped resources. Her yield of grain and grass can be almost doubled. Her capacity to produce live stock both in quality and quantity can be very greatly increased. Every railroad should have an industrial agent on each division who could be in touch with the public, who could give his personal services in establishing creameries and canning factories, who would know where grass was short and grain long, who could advise where to buy feeders on short grass for shipment to long grain, and know, besides, a thousand other things helpful to the farmer. Can not these keepers of the highway see that their prosperity is bound up inseparably with the prosperity of the people along their lines? that if the farmers prosper, they cannot help but prosper? that if they live from hand to mouth, the railroad must live by the skin of its teeth? If the railroads will study how to promote the farmers' interests, the farmers will be their firm and lasting friends. You have taken each other for better or worse and the better friends you are to each other the more prosperous you will be.

The railroads should understand that their true friend is not the man to whom they give a special rate and who is always looking for a still lower rate, but the many to whom they give just and equal rates; not the man to whom they have given a free pass as a courtesy in name, but as a bribe in fact, but the many to whom they see far enough ahead to give a two-cent rate, or at least a five hundred-mile book for ten dollars good until used for any member of the family. Do they suppose any farmer's wife can be kept from going to the nearest large city for a dress or a new bonnet if there is a mileage book in the bureau drawer that she can use at two cents a mile? If the people of any country are to be educated, they must travel. Why are the cars one-fourth full at three cents per mile when they might be two-thirds full at two cents? The railroads need yet to learn that the secret of success in business lies in the large volume done at small profits rather than the small volume at large profits.

I know of no more weighty saying in all literature, sacred or profane, than that of the Master: "He that is greatest among

you let him be your servant." transfer its application to business of all kinds, and it is this: the editor, the merchant, the farmer, or the railroad that would reach the highest prosperity must be the greatest service or make the service he renders of the greatest value to the man who receives it. The fortunes that last, the reputations that last, the glory that lasts, are won not by getting all you can out of men, but by helping and enabling them to help themselves. This is the true measure of greatness whether for man or corporation.

If the railroads of Kansas are to be permanently prosperous, it can be only through the prosperity of the Kansas farmers. Even the steer will not thrive unless he is on good terms with his feeder. You must win the confidence of Kansas farmers if they are to do a pleasant and profitable business. That confidence can be secured only by fair and just dealing and in no other way. The farmers of Kansas are a fair-minded people and mean to be just, no matter what those who do not know them may say, but ugly customers if you either stroke the hair in the wrong way or do them any mean tricks.

If I am asked for remedies for the evils I have mentioned, I reply: There is no remedy except a recognition of the fact that the railroads of the country are the State and National highways to be managed not solely for the benefit of the corporation, but for the purpose for which they were incorporated in the beginning, the promotion of the public welfare. It may require severe and drastic legislation to bring them to a recognition of this first principle. It will require a great deal of education to bring the farmer and the business man to a full understanding of their rights in this matter. They must be brought to realize, possibly in a painful way, that if the present conditions continue, there will be grief in store and that without measure. It is only when the tale of bricks is doubled that Moses comes.

If discriminations in favor of beef packers, elevator companies, lumber companies, coal companies, and other large corporations continue, if railroads are gathered into systems, and systems into mergers, if rates are raised to increase dividends, and dividend earning power is capitalized to increase bonded indebtedness, this result will surely follow: When panics and hard times come, as come they will, political revolution will be inevitable. Socialism, perhaps in its worst form, will make tremendous strides. The one consolation is that no combination of capital, even if it embrace all the Morgans and Rockefellers, can for any great length of time pursue a policy that pauperizes the public. There are other safety valves besides Mount Pelee.

So long as good crops and resulting good times continue, the farmers will submit to a great deal of imposition and outright wrong doing, but when the tide turns and organized capital fails to share the public burden, there will surely come a day of reckoning. Whether in matters political, ecclesiastical, or financial, when great power falls into hands that use it for oppression, readjustment must follow or the onward progress of civilization would be checked. There is too much intelligence in the United States to permit injustice to become permanent, or the wealth of the country to remain long in the hands of the few.

In conclusion: The railroads are simply preparing the way and educating the people to the necessity of complete government control, if not, in fact, government ownership, for which we are not ready now, but are getting ready very fast. I do not believe theoretically in government ownership. It can be justified only as a last resort. If the railroads succeed in eliminating competition and establish a nation-wide monopoly, then the only arm that can wield this monopoly safely is that of the nation, or, in other words, the government. In the present state of our civil service, this would bring disaster. In so far as the present methods lead to nation-wide monopoly, they both necessitate and at the same time prepare the way for ultimate government ownership.

Soil Cultivation.

PROF. A. M. TEN EYCK, KANSAS STATE AGRICULTURAL COLLEGE.

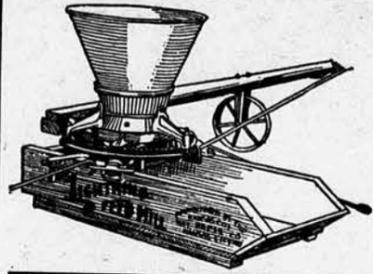
There are no iron-clad rules in farming. Different location, different soil, different climate, different equipment, and different dispositions of men make necessary different methods of farming. Even on the same farm, because of the variability of the seasons and soil conditions, the careful farmer will not practice the same system of cropping each year, but with good judgment, having a knowledge of the elementary principles of soil physics and crop production, he will vary his cultivation to suit the soil and season.

CULTIVATION EXPERIMENTS WITH WHEAT.

A series of cultivation experiments with wheat were begun at the North Dakota experiment station in the fall of 1896 and the spring of 1897. The original plan included fifty-two plots, each one-fourth of an acre in extent. Other plots were added to the experiment so that in 1899 there were sixty-six plots in the series, representing twenty-six different methods of cultivation, each of which was duplicated upon fall and spring plowed land.

I shall not attempt to discuss the results of all the individual treatments or cultivations separately, but shall group them as far as possible into twelve or thirteen general methods of culture. "Cultivated in rows," stands for the so-

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called "Campbell system," as Mr. Campbell first introduced it. The wheat was sown on specially prepared land, in rows eighteen inches apart and cultivated four or five times during the season with the Campbell cultivator.

"Ordinary plowing," means ordinary deep plowing, six or seven inches deep. These plots constituted the check plots to which the other special methods of culture were compared. The ground received only such cultivation as was considered necessary for sowing and covering the seed, the wheat was sown in drills six inches apart and the crop received no cultivation after seeding.

"Shallow plowing," three or four inches deep, as opposed to deep plowing, received the same cultivation previous to sowing to wheat as did the ordinary plowing.

"The sub-surface packed," and "harrowed after plowing," plots received this extra treatment in the fall or spring immediately after plowing.

Certain plots were subsided four, six and eight inches below the bottom of the six-inch furrow. This treatment was given only once in three years, and was given in the fall of 1896 and the spring of 1897.

The "disc plowing," as opposed to ordinary plowing, was done with a John Deere Secretary disc gang plow.

As a special treatment some plots were rolled after sowing with a smooth roller, others were harrowed, or rolled and harrowed after sowing; and during the last two years of the trial, several plots received an extra harrowing after the wheat was up six inches high.

In addition to the special cultivation, each of the specially treated plots also received the ordinary cultivation which was given the check-plots. All of the plots were sown to wheat each year, the treatment being repeated on the same plots from year to year.

Moisture determinations were made at sowing time, usually a week or ten days after the grain was sown, and at harvest time, immediately after the grain was cut. The interval between the taking of the two sets of samples was the period during which the rainfall was recorded, and was noted as the "growth period" of that season.

The wheat was seeded during the last week in April or the first week in May each year, and harvested about the first week in August, the average "growth period" being 103 days.

The loss of water during the period of growth from the first three feet of soil added to the rainfall for the same period give the relative amount of water used by the crops grown on the several plots.

All of the experiments were discontinued after the crop of 1900, part of the plots were dropped from the test in 1899, and the moisture study was not begun until 1898, so that it is not possible to give comparative results for each method of culture covering the four years' trial. The description of the seasons and the general wheat crop may be stated as follows:

1897, season wet, crop fair to good; 1898, season favorable, crop good; 1899, season rather dry, crop average; 1900, season very dry, crop very poor.

In the discussion which follows, I have taken the average crop for the first three years of the trial and have not included the crop of 1900 in the average yields. For the soil moisture records, the last three years of the trial are taken and the dry season of 1900 is included.

**WHEAT CULTIVATED IN ROWS.**

Wheat cultivated in rows as an average for three trials, gave 6½ bushels less grain, \$4.77 less profit per acre on fall plowing, and 8½ bushels less grain, \$5.72 less profit per acre on spring plowing, than was obtained from the ordinary treatment. There was no appreciable conservation of the soil moisture by this method of culture.

In 1897 the cultivated grain yielded about one-half as much as wheat grown in the ordinary way, in 1898 about two-thirds as much, in 1899 the yields were nearly equal on fall-plowed land, while in the very dry season of 1900 the cultivated wheat gave slightly the larger yield on spring-plowed land.

It was noted each year that the cultivated wheat tillered well, was very dark in color, more rank in growth, and more spreading and leafy than the ordinary sown grain. The straw grew longer and coarser and the heads were larger but the wheat ripened three to five days later than grain sown in the ordinary way.

The plan for cultivating small grain

was instituted for combatting drouth; hence "wet" seasons and "good" seasons are the ones that will show most to its disadvantage and this was the case in the above experiments.

But the average has been very much against the system and even in the western and drier portions of the State the system has not as a rule given favorable results. Seeding wheat in the ordinary way and cultivating with a weeder or harrow has given increased yields, but planting in rows and cultivating has not proved successful. If it were necessary to grow wheat continuously on the same land, the cultivating system might be a success; but proper rotation of crops, or summer fallowing in dry districts, makes the cultivating system unnecessary and unprofitable.

**SHALLOW PLOWING.**

Shallow plowing (three inches deep) gave one-half bushel less wheat and 23 cents less profit per acre on fall-plowed land, and nearly a bushel less wheat and 40 cents less profit per acre on spring-plowed land, than was obtained from ordinary plowing six inches deep. The first year of the trial the shallow-plowed land (which had previously been plowed deep) gave a larger yield than did the land which was plowed deep. In the succeeding trials the shallow plowing gave a relatively marked decrease in yield, amounting to 17 per cent less than the deep plowing in 1900.

Ground which has been customarily plowed deep may be occasionally plowed shallow with good results, just as grain may sometimes be disked in without plowing, but keeping up the practice is detrimental to the largest production of crops. The difference in the yield given was not due to lack of moisture, but due to the physical and perhaps the chemical condition of the soil. The development of bacterial life in the soil has much to do with its fertility and productiveness. The bacteria exist only in the surface soil, and mainly in the mellow, moist soil which is cultivated and turned over by the plow from year to year. Shallow plowing for any extended length of time gives less depth of mellow soil, less space for the bacteria to develop in, and less plant food for them to work over.

The most perfect mulch is formed by the plow when it cuts off and turns over the soil, dropping it back into its place in a pulverized and mellow condition. Very deep plowing is wasteful of the soil-moisture unless the plow is followed by a packer or harrow so as to surface and firm the soil and prevent it from drying out. Shallow plowing in a dry year often seems preferable to deep plowing, especially for grain crops, but continued shallow plowing will tend to decrease the available fertility of the soil. The soil should be loosened several inches deep and inverted perhaps every second year in order to maintain its depth and fertility. If crops are rotated properly it is not necessary nor desirable to plow every year.

**SUB-SURFACE PACKING.**

On fall plowing, sub-surface packing of the ground immediately after plowing gave forty-two pounds more wheat and 24 cents more profit per acre than was obtained from the check-plots. On spring plowing similar results were obtained. It took a little less water to produce the crops on the land which was sub-surface packed, and the soil contained a slightly higher percentage of moisture at the close of the season than was found in ordinary plowing.

The sub-surface packer is a heavy disc roller. The discs sink through the loose soil at the surface tending to firm and pack the ground near the bottom of the furrow. This establishes a better capillary connection with the firm soil below, which tends to draw the water up into the surface soil, thus causing a more rapid decay of stubble and other matter turned under by the plow and hastening the germination of the seed and the early growth of crop. In all experiments the sub-surface packer has given good results.

**HARROWING AFTER PLOWING.**

Ground harrowed immediately after plowing gave a uniformly marked increase in crops over ground receiving no treatment after plowing. One bushel more wheat per acre after deducting the expense of the treatment left 46 cents more profit per acre, which means something to the farmer who grows much wheat. The treatment has paid better on fall plowing than has sub-surface packing, but on spring plowing the extra harrowing did not give much benefit. It took a little less water on the average to produce the wheat on those lots which were harrowed immediately after plowing.

Harrowing immediately after plowing firms and fines the soil, closing the large air spaces and keeps the furrow slice from drying out. Harrowing in the fall conserves the soil moisture and causes the stubble to decay, while the winter settles and firms the soil sufficiently to establish good capillarity.

For potatoes and root crops, subsolling has given good results, but in wheat culture such treatment does not seem to be necessary or profitable.

The practice (also called subsolling) of plowing a little deeper every three or four years and bringing up an inch or so of new soil to the surface is in my opinion preferable to subsolling. By this method the capacity of the soil to absorb rain-water is increased, the hard crust made by the tramping of the horses is broken up, new soil is brought to the surface where it can be acted upon by the weather and soil bacteria and the depth of fertile soil is increased. Such plowing should

usually be done in the fall preceding corn or some other cultivated crop.

**EXTRA CULTIVATION WHICH PAID.**

To sum up and group some of the results: On fall-plowed land, four extra harrowings and one rolling, namely land harrowed after plowing, rolled once and harrowed twice after sowing, and harrowed once when the wheat was several inches high, gave as an average for several trials 3.4 bushels more wheat and \$2.02 more profit per acre than was obtained from the ordinary treatment. On spring-plowed land one subsurface packing, one rolling and two harrowings after sowing produced 2½ bushels more wheat and \$1.01 more profit per acre than was secured from ordinary methods of culture. It pays to work the land.

**CONSERVING SOIL MOISTURE BY ROTATION OF CROPS.**

Experiments conducted at the North Dakota station have shown that the rotation of wheatland with cultivated crops or the practice of summer fallowing has been a far greater means of storing and conserving the soil moisture than any method of cultivation which can be practiced while growing the wheat crop.

In the dry year of 1900, when all extra cultivation failed to increase the crop on the old wheat land, land which had grown corn the previous year without extra cultivation gave a yield of 25 bushels of wheat per acre while the wheat lands beside it only produced 7 bushels per acre. Wheat after potatoes yielded 24 bushels per acre, while wheat after cultivated summer fallow (land which was cultivated during the summer of 1899 without a crop) yielded 29 bushels per acre.

The large difference in the crop suggested that the rotated land must have contained more water in the spring than the wheat ground. No study had been made of the moisture in the several plots in the spring but samples of soil were taken, July 24, 1900, about harvest time, from the several plots which were growing wheat and also from the ground which was being summer fallowed or cultivated in corn or other crops. It was found that the water remaining in the first three feet of soil of all plots which had produced a crop of wheat was nearly the same, averaging about 21 per cent of the dry weight of the soil, from which fact it was concluded that this was as low as the wheat crop could draw the moisture from the soil, because the crop was suffering from drouth at the time the samples were taken.

On July 24, ground which was being cultivated to corn contained 2.85 inches more water in the first three feet of soil than the wheat land, while the cultivated summer fallow contained about 2.6 inches more water than was found in the wheat land. At this date the height of the standing water in the soil under the wheat-crop

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was 8½ feet below the surface of the ground and the total difference in soil moisture was doubtless much greater than appeared in the first three feet of soil.

It was decided to make a study of the soil moisture in the different plots at the end of the season. Over twelve inches of rain fell during the months of August, September and October and the whole ground seemed to be filled alike with water. The moisture study was made, however, November 15, just before the ground froze up, and showed that there was still a considerable difference in the total amount of water in the first six feet of the soil in the several plots.

The summer fallowed land contained over three inches more available water than the wheat ground did, and the land which had pro

(Continued on page 156.)

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**ALFALFA AND FOXTAIL.**

(Continued from page 137.)

for alfalfa. Disk as soon as the soil is in suitable condition. Set the disks rather straight so as to throw only a small furrow. Splitting the alfalfa crowns is all right. By disking early you can make sure that the first crop of alfalfa will be ahead of the foxtail. Disk again after each cutting and there will probably be no trouble with any grass among the alfalfa.

Some are fearful about disking young alfalfa. If the roots are so small as to be torn off or thrown out by the disks the work must be deferred. The writer once directed a tenant to disk a field of young alfalfa. He began but thought he was ruining it and quit. Later the part that was disked became the best of the field.

**MEADOW FESCUE.**

**EDITOR KANSAS FARMER:**—Can you tell me the value of meadow fescue hay for feed? There were hundreds of tons of it cut here this fall. This was the second crop, the seed having been harvested in the summer. Horses are very fond of it. I have never seen any statement in the agricultural papers of the per cent of protein and other nutrients. L. C. WEST.

Meadow fescue makes very good hay, better than timothy and almost as good as orchard-grass hay. In computations of values per 100 pounds made a few years ago the writer found the following comparisons:

| NAME OF FEED.      | Dry matter in 100 pounds. | Digestible nutrients in 100 pounds of feeding stuffs, and values of protein at 3.37 cents per lb., carbohydrates at .32 cent per lb., and fats at .56 cent per lb. |                |       | Total value of digestible nutrients in 100 pounds. |
|--------------------|---------------------------|--|----------------|-------|--|
|                    |                           | Protein.   | Carbohydrates. | Fats. |  |
| Meadow-fescue..... | 80.0                      | 4.2  | 43.3           | 1.7   | 29.1   |
| Timothy.....       | 86.8                      | 2.8  | 43.4           | 1.4   | 24.1   |
| Orchard-grass..... | 90.1                      | 4.9  | 42.3           | 1.4   | 30.8   |
| Alfalfa.....       | 91.6                      | 11.0   | 39.6           | 1.2   | 50.5   |
| Red clover.....    | 84.7                      | 6.8  | 35.8           | 1.7   | 35.4   |

These computations of values were based on prices of standard feeds then prevailing. All prices are higher now in proportion. Not only carbohydrates and fats have advanced more than protein.

In later computations the writer, in order to conform to the usages of other students, has adopted a higher relative value for fats than that here used. These changes would make little difference in the relative values here found for the several kinds of hay. Translated into prices per ton these would read:

|                    | Per ton |
|--------------------|---------|
| Meadow-fescue..... | \$ 5.82 |
| Timothy.....       | 4.82    |
| Orchard-grass..... | 6.16    |
| Alfalfa.....       | 10.00   |
| Red clover.....    | 7.08    |

Meadow fescue is a safe hay to feed to any kind of stock.

**KANSAS FARMER'S NEW WALL ATLAS.**

The KANSAS FARMER has arranged with the leading publisher of maps and atlases to prepare especially for us a New Wall Atlas, showing colored reference maps of Kansas, Oklahoma, Indian Territory, the United States, and the world, with the census of 1900. The size of the New Wall Atlas is 22 by 28 inches and it is decorated on the outer cover with a handsome design composed of the flags of all nations.

Tables showing products of the United States and the world, with their values, the growth of our country for the last three decades, and a complete map of the greater United States are given. This is an excellent educational work and should be in every home. The retail price of this New Wall Atlas is \$1.

Every one of our old subscribers who will send us \$1 for two new trial subscriptions for one year will receive as a present a copy of this splendid New Wall Atlas, postpaid, free.

Any one not a subscriber who will send us 50 cents at once will receive the KANSAS FARMER for five months and will be given a copy of our New Wall Atlas free and postpaid.

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by local applications, as they can not reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely

closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that can not be cured by Hall's Catarrh Cure. Send for circulars, free. F. J. CHENEY & CO., Toledo, Ohio. Sold by Druggists, 75c. Hall's Family Pills are the best.

**PUBLISHER'S PARAGRAPHS.**

Jas. Barker, General Passenger Agent of the M. K. & T. Ry., St. Louis, Mo., announces that they are getting out a monthly publication which will contain the most authentic information about the Southwest which they will be glad to send to any one gratis who will mention the Kansas Farmer when sending their request.

We call special attention of our readers to the advertisement of South Chicago & Calumet Lumber Company, 861 Harbor Ave., Chicago, Ill. In view of the fact that there will be a great deal of building, residences, barns, and fences, this spring, it is important to get the material at first hand and therefore our new advertiser should be consulted at once, as he will save everybody, buying lumber in big quantities, big money. Be sure to mention the Kansas Farmer in writing.

The eleventh annual catalogue of the Carter Wire Fence Machine Co., Box 24, Mt. Sterling, Ohio, contains some very interesting facts about building wire fence—facts that will prove money-savers to every farmer who reads and heeds them. This company are the pioneer wire fence machine makers, whose years of experience has made possible the building of a wire fence that will turn any kind of stock; adapt itself to any kind of weather; occupies very small space, and

lasts a lifetime. Write for their free catalogue, it is well worth reading.

As everybody knows there are good seeds and bad seeds, seeds that grow and seeds that don't grow, seeds that yield and seeds that don't yield, and a little thought given now to the selection of the seed you'll need, will be found at harvest time to have been well spent if you select the world-famed Ferry's Seeds—the kind that always yields. For nearly half a century Ferry's seeds have been known and sown wherever good crops are grown, until farmer and gardener alike, have learned to depend upon their wonderfully reliable growing and yielding qualities.

The New England Magazine for February opens with a very full illustrated article on Hartford, "Gem of New England," as Connecticut's capital has been called. Founded in 1633 by two hundred colonists who migrated from Cambridge, Mass., few cities have had a more steady and satisfactory business growth, or have contributed so much to science, literature and theology. The beautiful and extensive park system adds to the charm of life in Hartford, and one of its park commissioners, and a minister, describes the city and its surroundings with natural pride.

Ross & Ferrell, Farragut, Iowa, report that they are hearing favorably from Kansas Farmer readers relative to the supply of seed-corn for the coming spring's planting. We are glad to know it. This is a thoroughly reliable seed house, and they are able to supply a much better quality of seed than it was possible to supply a year ago. Their standard varieties are Iowa Silver Mine and Early Gem, the latter a fine yellow variety. They also have a few hundred bushels only of Early Red, another extra fine yellow variety. See advertisement for seed wheat, oats, and cane, and write early for price list.

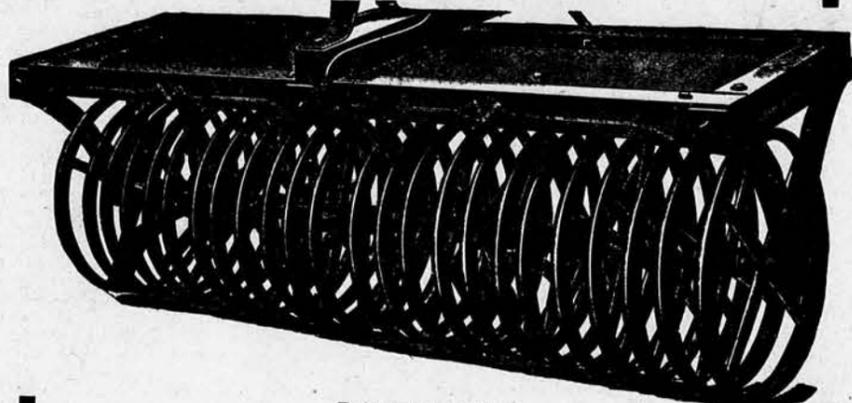
Farmers who seek economy in their methods should read the advertisement of harvesting tools in our columns, manufactured by the pioneer firm, Loudon Machinery Co., Fairfield, Iowa, whose implements for barn and field have come to be very well known. Improvements are made from time to time by the inventive genius of this firm; and their illustrated catalogue, mailed by their for the asking, gives the reader a clear understanding of all their full line of hardware specialties, prominent among which are their haying and forage tools, feed and litter carriers, flexible barn-door hangers, etc. Note address in the advertisement carefully when writing and mention this paper.

Salzer's seeds are grown in more gardens, and planted on more farms in America, than any other seeds sold, and the reason is found, perhaps, in the truth of the firm's motto—"Salzer's Seeds Never Fail." Owning and operating over 50,000 acres for the production of choice seeds, the most complete facilities are here united with long and varied experience; and the result is a product in seeds that has never before been equaled. And the large scale on which the Salzer business is conducted, is fully matched by the liberal principles which rule the trade of the house in its treatment of customers. Each year a more and more surprisingly generous offer is made to planters, and as appreciatively accepted. This year is no exception, and "\$10.00 for 10c" is the

**Drouth Defier.**

The Topeka Foundry, Packer

has more humps than the "Campbell," and can pack both the surface and the sub-surface.



Patent applied for.

No'ing better for putting the ground in fine condition for seed-bed.

Write for Prices and Circulars.

**Topeka Foundry,**  
Topeka, Kansas.

tempting and encouraging proffer for 1903. For 10 cents in stamps, the planter will receive Salzer's Great Catalogue, the finest ever issued, and farm seed samples fully worth \$10 to get a start with. Such, among others, are the methods which have brought 1,000,000 to the John A. Salzer Seed Co., La Crosse, Ia.

The St. Joseph Plow Co., St. Joseph, Mo., are putting out a line of farm implements that sell upon their merits alone. The "Famous" St. Joe Lister is one of the greatest forces in modern corn production, especially over that large area of country adapted to that superior method of tillage. The big claim made for it is that it is made to scour, and that it does scour always, and runs deep. It is adjustable for three times over the corn, plowing twenty acres per day, and it beats the "man with the hoe." The St. Joseph Plow Co. has issued a very attractive catalogue of their listers, disk-cultivators, etc., which is to be distributed freely among those who ask for it. See advertisement. Address Department K.

A Fifty-Foot Calendar.—N. W. Ayer & Son, the Philadelphia advertising agents, who have a national reputation for "keeping everlastingly at it," believe in sticking to a good thing when they have one. For instance, their calendar for 1903 follows the design used for several years past, but with new coloring. And in truth it would be hard to improve upon their design; the dates are plainly readable at fifty feet, yet the calendar is not unpleasantly conspicuous; it is artistic, simple and useful and it is not surprising that it has become so popular an adjunct to business offices that the supply never equals the demand. While they last, one will be mailed to any address for 25 cents, which barely covers cost and postage.

It is barely possible that farmers do not pay the amount of attention to selecting seeds for planting that they ought to. It is an evidence of good farming that a large number of farmers, and always the successful ones, are paying strict attention to the kind of seeds they plant, especially that of seed-corn. This year corn grown on the bottom lands as a rule will not grow, and the very poor season of last year makes good seed-corn a matter of more than usual interest as only corn grown under most favorable circumstances and by thoroughly experienced seed-men will grow. One of the most conscientious seed-firms in this whole western country, and in fact in the United States, is VanSant & Son, of Farragut, Iowa, whose advertisements are running in this paper. Mr. VanSant says that he would rather not have a single sale during the year 1903 than to make one mistake and have one farmer disappointed in the seed-corn bought of him. This is the character of a man who has a conscience and when the seed-corn season is over he has a feeling of relief as the responsibility he feels of supplying only good seeds to his customers, has been lifted off his shoulders. Any one dealing with a man of this character especially when he has had thirty years of actual experience in growing seed-corn, will not regret it. Another thing, all of the qualities which he attributes to his corn will be found in the growing crop next year. A careful reading of his advertisements will pay any farmer and a postal-card sent to W. W. VanSant & Son, Farragut, Iowa, will receive by return mail samples of his seed-corn, free of charge, and a neat pamphlet telling the qualities of his corn and other items of interest to corn-raisers. Write them today.

**A Practical Test for Feed Mills.**

The Iowa Grinder & Steamer Works, of Waterloo, Iowa, after having received a large number of inquiries as to whether it is possible and practical to grind this year's corn or not, wrote to a number of their customers, each of whom owned one of their Four Burr Mogul Mills No. 2, a two-horse mill, asking

them to send in a report of the best grinding they could do on a thirty minutes' test and received replies from thirty-one of the best farmers in six States, viz., Iowa, Illinois, Wisconsin, Nebraska, Missouri, and Kansas, enclosing statements of the amount of corn ground in thirty minutes. Estimated by measuring the meal after it was ground and every statement signed by a witness to the grinding. These reports show an average of twenty-six bushels of ear corn each in the thirty minutes, which would be fifty-two bushels per hour. This is a good showing for the damp corn of this year. The large size of these mills, together with two sets of burrs, which all grind at the same time, seems to make these mills especially adapted to fast grinding and to handling damp corn. We are advised that this company is crowded with orders.

**Modern Machinery in Farming.**

The use of modern machinery on the great Western farms of California is described in an able article in the February Pearson's by D. A. Willey. In California plowing is hard work, for much of the soil consists of stiff clay. But it is a simple operation with the great steam tractor. When it goes into the fields to plow, from fifteen to twenty plows are hitched up behind. The engineer pulls at his controlling lever, and the plows are steadily pulled through the ground, turning it over in strips from twenty to thirty feet in width, cutting through the soil to a depth of over a foot. The steam horse will make ready one hundred acres for the seed in two days. Harrowing—the breaking up of the chunks of soil into small pieces—is even harder work than plowing in California; but the steam tractor makes light of the difficulties. It harrows the fields with a special harrow, about ten times the ordinary size, covering some 250 square feet of ground, armed with teeth biting to a depth to six inches. With such a harrow dragging behind, the tractor covers twenty to twenty-five acres in the hour. And when the time for reaping the harvest-field comes, the tractor draws the great machine to which thirty horses were wont to be harnessed—the machine that cuts and threshes and sorts out the kernels of the grain into bags, so that the only work required of the farm hands is the tying of the bags and the loading up of the wagons which the tractor will

**READING TIME**

is here again, with its long evenings.

**The Twentieth Century Farmer**

is chock full of the ideas of the brainiest men in the country—well known men, selected as writers, because they know how to make farming pay. One idea may be worth a hundred dollars to you.

24 to 48 pages, weekly, \$1.00 per year. Write for Free Sample Copy and Booklet.

TWENTIETH CENTURY FARMER, 1735 Farnam St. Omaha, Neb. Agents wanted at every P.O.



**BEES** If interested in bees subscribe for the Progressive Bee-Keeper \$50c per year. Sample copy free, also copy of catalogue of Bee Keepers' Supplies. LEAHY CO., HIGGINSVILLE, MO.

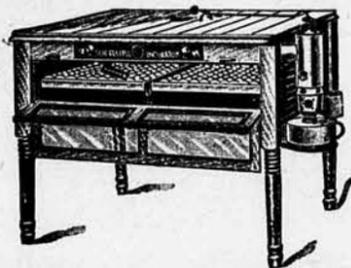
eventually draw away to the railroad depot. In a day's work the tractor will convert the standing crop of a field of 150 acres into grain and straw. The work of only eight men is needed—one to steer and one to fire the engine, one to operate the levers of the cutting machine, and the rest to tie the mouths of the bags and to load up the farm wagons. Such is the California method of farming by steam.

**A Money Saver for Dairymen and Farmers.**

The question of profit to the dairyman or farmer is a matter dependent altogether on his ability to obtain practically all the butter-fat from the milk which his herd affords, no matter how large or small the herd may be. To do this is an utter impossibility unless you use a good cream separator. By using the National Cream Separator you save 80 per cent of the loss of butter-fat by the setting system, besides improving the quality of the cream, making better butter and higher prices possible. It saves time, it saves labor—it saves money. All this the makers of the National are ready and willing to prove to your utmost satisfaction right in your own dairy. They seek the privilege of sending you a National Cream Separator for ten days' free trial. Ask you to put it side by side with any other separator made, and let you be the judge as to which is best. If the National fails to meet your highest expectations, you are under no obligations to keep it, send it back and the makers will pay all costs. You will find the National the easiest running, closest skimmer and most durable separator to buy. For full description prices, etc., write for a catalogue to the National Dairy Machine Co., Newark, N. J.

**About Successful Incubators.**

Anyone engaging in the poultry business and proposing to make money out of it must realize to begin with, that he must take into the work the instincts of a business man. Indifference and inattention will not win. Old ideas must give place to new. Old methods and appliances are superseded by the modern, which are molded to meet the money-getting spirit which dominates the times. Time was when the hen was indispensable both as a producer and hatcher of eggs. Now, for the latter duty human invention has devised a means of dispensing with her services, substituting the modern incubator which gives results far above her highest attainments. These thoughts are suggested by a glance at one of the incubator advertisements reg-



ularly appearing in our columns. We refer to the Successful Incubator, manufactured by the Des Moines Incubator Company, Des Moines, Iowa, cut of one of the machines being shown herewith. The Successful Incubator has played a most important part in establishing what might be called the "modern idea" in the poultry business. Both the incubator and brooder are typical of all that is best for hatching and raising chicks. Other machines contain in substance some of the valuable features of the Successful. But wherever they are found giving satisfactory service elsewhere, it will be found that they do not depart widely from the principles evolved and put into practice by the Des Moines Company. The incubator is one of the big incidents of the business. Its choice is one of the things on which the poulturer must exercise a wise discretion. If he choose wisely he will have smooth, easy sailing so far as turning fertile eggs into vigorous chickens is concerned. On the other hand, it is possible to install an incubator which will be an intolerable nuisance, bringing continued vexation and may lead to abandoning the business as disagreeable and unprofitable. He will choose wisely who pins his faith to the Successful, as there are a legion to testify. Catalogue referred to in advertisement gives specific and adequate reasons. See ad for correct address.

**Seeking a New Home?**

Why not try the great Southwest? Low colonist rates on the first and third Tuesdays of each month. Ask for particulars and literature. Address:

JAMES BARKER,  
Gen'l Pass. Agent, M. K. & T. Ry., 101  
Wainwright Bldg., St. Louis.

**CANCER ON THE ARM CURED BY THE COMBINATION OILS.**

Emporia, Kans., October 18, 1901.  
Dr. D. M. Bye Company, Indianapolis, Ind.

Dear Doctors:—Believing you would be glad to know of the recovery of your patients, I am pleased to tell you the cancer on my arm is well. It is wonderful, this rapid recovery. I do not believe things happen, but that the Lord rules in all things, and that He led me to try your wonderful cure. May the dear Father bless you in your work of healing is the earnest prayer of your grateful patient,

Mrs. A. J. Wooster.

The Combination Oil Cure was originated and perfected by Dr. D. M. Bye. He has cured many very bad cases without pain or disfigurement. Those who would like to know more about it, or who desire free books and papers, should write to the HOME OFFICE of the Originator, Dr. D. M. Bye Company, Drawer 505, Indianapolis, Ind.

Business and professional men whose labors are largely mental, whose work is a constant drain upon the nervous system, find it necessary to have a reserve of nerve force to withstand the effect of mental strain.

When sleep is courted in vain, when the stomach is frequently out of order; when the daily stint becomes a burden instead of a pleasure; when you rise in the morning with less of energy and ambition than when you retired, your condition is so serious as to demand instant attention and treatment. It is not a case to be cured by a few weeks rest; nor of "my stomach slightly upset;" nor of "I'll be all right in a few days." It is a nervous disorder, which, if neglected, will lead to nervous prostration with its attendant horrors of fainting spells, of mental and physical weakness, irritability, morbid fears and ultimately, insanity. Under certain conditions these symptoms may lead to chronic headache, insomnia or nervous dyspepsia and, if the sufferer is predisposed, to heart trouble, the most common cause of sudden death.

When the system receives that aid from without which will replenish nerve force and vitality; rebuilding and restoring nerve cells and tissue; strengthening the nerve centers of the brain, heart, stomach, lungs, or whatever organ is affected, the annoying symptoms will disappear. Dr. Miles' Restorative Nervine nourishes the nerves. It quiets and strengthens them, rests and recuperates them, builds new tissue and restores health. It restores the exact element which weakened, exhausted, tired and hungry nerves lack. Dr. Miles' Nervine will preserve the balance of health and restore it when lost. It will counteract natural decay and establish a reserve of nerve-force which

**THE SATURDAY EVENING POST EVERY WEEK**

From Now to July 1, 1903

Only 50 cents



**Old Gorgon Graham**

By the author of Letters from a Self-Made Merchant to His Son. A new series of papers in which Old Man Graham preaches the gospel of good business and tells some of his characteristic stories. This Life Story of a Self-Made Merchant, by George Horace Lorimer, will be one of the features of coming issues of the magazine. The Letters from a Self-Made Merchant to His Son met with universal favor, and there is every reason to believe that the new series by the same author will be equally popular. In the new series old Graham tells the story of his own business career: how he began life as a farmer's boy, worked his way to the front and became the biggest pork packer in the West.

**Try the NEW POST to July**

New features, more of them, greatly improved. A handsomely printed and beautifully illustrated weekly magazine. Established 175 years and circulating nearly half a million copies every week.

THE CURTIS PUBLISHING COMPANY  
PHILADELPHIA, PA.

**Oregon Farms.**  
good schools, pure water, low prices.

If you are going west, write for my list of wheat, grazing, dairy, fruit, and timber lands. Fertile soil, mild climate, N. T. CONKLIN, Pendleton, Oregon.

will withstand the attacks of overwork and disease.

All druggists sell and guarantee Dr. Miles' Nervine. If the first bottle does not benefit you—you may have your money back. Send for free Treatise on Nervous Diseases.

Dr. Miles' Medical Co., Elkhart, Ind.

**WITH NATURE'S WONDERS.**

**The Tourist Finds Much of Interest Among the Caves and Natural Bridges of California.**

California has numerous natural bridges, caves, etc., of no little interest. The mammoth cave of Calaveras was discovered by miners in 1850. It contains, among other striking features, a rock shaped like a boat, and various apartments whose peculiar conformation or appointments have caused them to receive such names as Odd Fellows' Hall, Music Hall, Bridal Chamber, Cataract, etc. In Placer County, eight miles from the Central Pacific tract, is the Alabaster Cave, containing large rooms, crystalline waters, and innumerable stalagmites, stalactites, etc.

In Tuolumne County is the Crystal Palace Cave, discovered in 1879. It has a number of attractive subterranean apartments, such as the Bridal Chamber, the Crystal Palace home, and a curious apart-

ment called the Music Hall, where the deposits of aqueous origin not only have taken the form of organ pipes, sounding boards, etc., but they also emit, when struck, sounds or vibrations distinctly musical in quality.

Near this cave are two natural bridges, which the tourist can visit and return to the railway within half an hour. They are respectively 180 and 240 feet long, and the upper and larger is very curious.

On the beach near Santa Cruz is a natural bridge of imposing proportions and picturesque formation into which the sea washes.

The direct and most comfortable route to California is over the Union Pacific. Literature giving full information can be obtained by addressing J. C. Fulton, depot agent, telephone 34, or F. A. Lewis, city ticket agent, 525 Kansas avenue, telephone 53.

**S. G. CARTER GENERAL AGENT**

REAL ESTATE AND LIVE STOCK  
Miami, Texas.

If you want to buy feeders or any kind of cattle or a farm or ranch in Texas, see or write to me. No trouble to answer questions. References: Emporia National Bank, Emporia, Kas.; First National Bank Amarillo, Texas; Lee & Co., Bankers, Miami, Texas

Soil Cultivation.

(Continued from page 151.)

tained over two inches more available water than the land which had been cropped to wheat. The height of the standing water in the soil varied more than three feet, standing highest in the corn land and lowest in the grass land, and the ground which had grown wheat, the water stood 2 1/2 feet lower than it did in the corn land. If the fall had been drier there is no question but that the difference in the amount of soil moisture conserved by the rotation would have been greater, but two inches of extra available water in the soil just where it is needed means many extra bushels of wheat in a drouthy year.

Grass crops exhaust the soil moisture more than other crops, but after the sod is broken, the humus formed by the decaying roots gives the soil greater power absorb and hold water, so that indirectly grass-crops are great conservers of soil moisture as well as of soil fertility.

EARLY SPRING CULTIVATION.

It is necessary, however, in order to save the moisture which has been drawn near the surface during the winter, evidently by the frost, to begin cultivation early in the spring. Early cultivation not only checks the capillary rise of the water but hastens the drying off and warming of the surface soil.

Early cultivation need not be deep. The ideal seed-bed should only be loosened as deep as the seed is planted. If the seed is planted just beneath the mellow soil in the edge of the firm soil, it has the best environment for quick germination and strong growth. The firm soil below will supply the seed with moisture and the mellow soil above allows the best condition for the seed to get air and the full benefit of the warm sunshine.

SHALLOW CULTIVATION.

The practice of shallow cultivation may be carried too far. The depth of the soil mulch has much to do with the amount of water conserved in the soil. Professor King found that a mellow soil-mulch one inch deep did not keep so much water in the soil as a mulch two inches deep, and a mulch two inches deep conserved less moisture than a mulch three inches deep.

The principle of conserving soil moisture by cultivation is to produce a mulch of loose, mellow soil which breaks the rise of capillary water to the surface. The loose soil acts as a blanket not only to keep the water in but to keep the dry, hot air out, or from coming in contact with the moist soil, thus preventing evaporation and retaining the moisture in the firm soil beneath the blanket of mellow soil. A thick blanket should be more effective than a thin blanket. However, very deep cultivation may cause a waste of moisture in the surface soil, because the loosened part dries out, and the roots also, would have less feeding ground in the richest part of the soil.

The first cultivation of corn, potatoes or any other crops should be shallow rather than deep as is often recommended, and the later cultivation should be deeper. A thin mulch will retain the moisture during the cool, moist weather of spring, but later in the season when the hot, dry days of July and August come, a deep mulch is necessary in order to keep the soil from drying out.

Shallow cultivation early in the season is also favorable to the quicker warming of the soil. Loose soil is not a good heat conductor and more heat can reach the firm soil through a thin mulch than through a thick one. The weeds are also killed by early, shallow cultivation better than by deep cultivation.

Live-Stock Husbandry and Agricultural Prosperity.

L. H. KERRICK, BLOOMINGTON, ILL.

Agricultural prosperity—a familiar phrase—a very common phrase often and often used; farthest in the world from novel or startling or sensational, and yet a phrase could hardly be constructed to carry greater meaning. Agricultural prosperity—what does it not mean of plenty, of comfort, of contentment, of strength, security, peace, of happiness to mankind?

Sometime, I hope I may have leisure to write out all I have fancied that agricultural prosperity means or would mean to men, women and children. If I never find the time on this side, then just as soon as I get to the heavenly land and get settled, where the grass is ever green and water never falling; no blizzards, no floods, no drouth, no debts to pay and none to collect, I'll sit down some sweet day and write out all that agricultural prosperity means to me.

When real, enduring agricultural prosperity comes, there will come with it more good things for the race than I could name in all the time allotted me today—good things that I know of—and without doubt there would come many others that we have not even thought of.

There will come with it, a proper balance between farm and town population. Millions of half-fed, half-clothed, half-employed, half-educated, half-paid people—displaced, out of their natural place and home, massed in over-peopled cities—will be returned to the plentiful valleys, the forest sides and the green hillsides, the free air and sunlight of this beautiful world, their rightful and natural inheritance and home.

When real agricultural prosperity comes, who can tell how much of the

Burpee's Seeds Grow

Probably you have heard of this famous motto for many years but have you proved for yourself that Burpee's Seeds are the

BEST that Grow?

If not, write to-day for Burpee's Farm Annual for 1903—so well-known as "The Leading American Seed Catalogue." It is an elegant book of 184 pages, with beautiful colored plates and will be sent FREE to planter everywhere;—to others upon receipt of 10 cents, which is less than cost per copy in quarter-million editions. Write TO-DAY. Do not delay! It is sufficient to address simply

BURPEE, Philadelphia

want and disease and degradation and disappointment and despair which now afflicts mankind, will go? How many economic and social questions, and questions between capital and labor, of which no solution appears, will go? How much of the strife and unrest and crime which disturb the peace of the country, and interfere with the business of the country, and obstruct or defy the obligation of law, will go, and be unheard of, when general and permanent agricultural prosperity comes?

We are all painfully familiar with the deplorable conditions existing and which have existed for many months, in the anthracite coal region of Pennsylvania. At the bottom of the whole matter, there are three miners in the anthracite district where there is only work for two. That is all there is of it. There can never be peace and good understanding while such conditions exist. All the plans and projects and 'isms, worthy and unworthy, which have been tried and which may be tried to cure the evils of a situation like that, will fail. Neither legislation, State or National, or both together, will help it or cure it. Arbitration will never cure it. Nothing will cure it while there are three men with only living work for two. Happily there is no such thing as overdoing good farming. That fact is to be the economical salvation of this world. I do not know why it is nor how it is, but there never has been and never will be too many farmers nor too many good farm homes. Things were built that way and made that way by a wiser One than I. I only know it is true. It's a good thing that it is. People are surer of the comforts of life and the necessities of life, and safer from its ills on the farm than in any other place. And there is no danger that there will be too many of them there. I am aware that I speak to representative farmers gathered from all parts of a great State. You are men and women of ability and substance and repute. Your words are heard with respect by your neighbors, and you have influence among them and over their conduct.

Let me say for your comfort and your encouragement, you could not be moved by higher or more praiseworthy considerations than those which have brought you here—to confer about, to consider, to teach and to learn the ways and means of making the best and the most of farming and farm life. And when your sessions are concluded here and you disperse to return to your respective communities to carry to them what knowledge and help you have here gained, I would have you go inspired and nerved as men and women who go upon a noble and useful and practical mission of help to your fellow-men

TARIFF REFORM NEEDED.

Riding across your rich prairie country, noting your need of more and better houses to live in, and more and better barns to store your harvests and shelter your stock, and thinking then of our fast-dwindling supply of saw-timber and the high and higher going price of lumber, I ask what is the sense or justice or statesmanship in any tariff on imported lumber which you need and should be able to get any where you can get it cheapest and best. And what is the sense or justice or statesmanship in a sky-scraper tariff on the nails and other hardware you need in the construction of these houses and barns, and on the wire and staples for the fences you must have, in order that your farm may be divided into such fields and lots as will enable you to till and use it to the best advantage.

And then I thought of the vast live-stock interests of the country, and the recent close call we had for infection with foot-and-mouth disease; and that in all probability that disease was introduced with free hides bought up from the four corners of the earth—yes, free hides, because maybe you do not know it, the New England leather manufacturer has all the duties on the hides he buys rebated, if he exports the manufactured leather.

And there he is—a free trader to buy, but protected when he sells to you—buying free hides from Kamtchatka to Cape Horn, while you may sell your hides where you can, and buy your shoes where you must, and fight foot-and-mouth disease between times. Is this politics? No. There is no more politics in it than there is in shucking corn or feeding a steer or building a fire in your cook-stove for your wife to get the family breakfast.

If there are evils and injustice in our tariff laws, such as I have noticed, who

must correct them? The farmers. The other fellows will never do it. Who has the right to correct these? The farmer. This is the farmers' country still, with all our boasted power and prestige as a manufacturing country. Besides supplying our own eighty millions of people, the farmers of the United States send abroad nearly one billion dollars' worth of agricultural products annually; our manufacturers altogether send less than one-half that amount. Agriculture is the Imperial industry of these United States, and the sphere of agricultural influence rightfully extends to, and should control, in all legislation affecting agricultural interests. Tariff laws or any laws, unfavorably affecting or unfairly affecting agriculture, should be revised or repealed. It is absurd that the greater interest—the general interest—should be dominated by the lesser and the special interest.

ESSENTIAL TO SUCCESS.

But there is nothing off the farm or outside the farm which can bring agricultural prosperity to bad farming. Good farming is the first and indispensable requisite of agricultural prosperity. There are many things, agricultural, that are still in the experimental stage, but there are also some things which we know that are settled. One of the things that I can count as settled and proved, is that good farming can not be dissociated with live-stock breeding, raising and feeding. I would sooner try to breed and raise and feed live-stock without farming, than to try to farm without breeding and raising and feeding live stock. That is, if I had to choose between the two, I would put all our farm down to pasture, keep live stock to graze it, and buy of my neighbors all other feed needed, rather than put all of our farm in corn and oats and other crops to be harvested and sold off the farm, keeping no live stock to consume it.

What is good farming? Good farming of a piece of land of a given degree of natural fertility, is that kind which will get from it in a series of years, normal yields of the crops sown or planted without deteriorating or lessening the fertility but increasing it. I doubt if one has the moral right to occupy and farm land in a way which year by year inevitably lessens its producing capacity. There can not exist anywhere, permanent agricultural prosperity where the system of farming is of the kind that certainly, however gradually and slowly, lessens the fertility of the soil. It would hardly seem necessary still, to keep warning intelligent farmers, that crop and sell off—crop and sell off—is simply selling the farm in that way; slowly it may be, but surely.

Commercial fertilizers will not save it. Millions have been spent for commercial fertilizers in regions I am acquainted with in vain attempts to maintain fertility where live-stock husbandry has been for the most part abandoned; but the deterioration and loss of fertility go steadily forward, and there is consequent lessening of agricultural prosperity, and the prices and rentals grow comparatively less and less. The only known practical method of maintaining or increasing the fertility of the soil of the farm, while we are taking the crops out of it year by year, is to keep live stock to consume some due proportion of those crops. But still there are many who will question the statement. Frequently I hear a man say something like this: "There is that Harker farm. I have known it for twenty-five years. It has been cropped constantly—no live stock except the horses used to work it and a couple of milk cows—not more than eight or ten acres of pasture-ever, and to my certain knowledge that farm yields as much as it did twenty-five years ago." Such instances there are for a fact; but the whole truth does not appear in this statement. Twenty-five years ago the fields were traversed in awkward directions with many wide fertile sloughs, which yielded nothing for lack of proper drainage. Most of the land under cultivation was often worked when not in proper condition. The methods of tilling that farm twenty-five years ago were not such as now. Weeds were left to divide the plant food with the crops, but these are now carefully eradicated. The corn roots were ruthlessly cut and torn by excessively deep cultivation. Seed was not selected with intelligent care. Any kind that would grow was sown and planted.

All is different now; the farm is tilled. Those wide fertile sloughs are producing big crops. Instead of a menace and hindrance, they are now the main reliance. The oats sown are treated for smut, the corn is selected according to approved rules and standards and tested before planting. It may easily be that, as a whole, the farm produces more now than twenty-five years ago, but just the same, as a whole, that farm has been and is gradually and surely losing in fertility, and the possible yield on the whole farm is gradually growing less and less.

Now let us see where we are. We have seen that good farming is the mainstay of agricultural prosperity. We have seen also that nothing less than that kind of farming which at least maintains natural fertility, can be called good farming. And we have seen that the only practical method of maintaining fertility is by combining live-stock husbandry with our other farm processes. If we have seen aright, then the next and natural inquiry is for the best, most practical, most economical, most profitable methods of breeding, feeding and handling the classes and kinds of live stock suited to our conditions. Kansas farmers and all of us are right up against that inquiry. If we have the eyes to see the situation, and if we

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have in us the stuff to grapple with it and master it, it will be well for the future prosperity of agriculture.

Live-stock husbandry is a higher branch of farm study. It calls for the completer exercise of faculties, only partially engaged in the ordinary routine of planting and tilling and gathering. It is a more difficult business than simply sowing and reaping, but as it is more difficult, it is most interesting.

I heard a preacher say a Sunday or two ago, that it required greater wisdom and power to create the lowest form of animal life that it did to create the whole material universe. I am inclined to believe that many farmers do not raise more live stock because, in order to succeed with it and make profit out of it, it requires more thought and study and care than they are willing to give.

**WHY OUR BOYS AND GIRLS LEAVE THE FARM.**

But my friends, we must get more out of our business than a mere living. We must get mental and moral exercise and discipline and strength of character out of it as well.

We have heard and read much in recent years about the great hegrira of boys and girls and older ones from the farm to the town. That great movement of rural population, city-ward, was probably the most ominous, single, economical fact of the last quarter of a century. It gave agricultural prosperity a black eye that will be a long time clearing up.

The movement may have been without good cause, but it had a cause, as all things have. I do not believe any excessive number of boys and girls left the farms and farm homes or that any excessive number are now leaving them, where flocks and herds of well-bred and well-kept live stock were found and are found.

You all know the characteristics of the exclusive grain-farming farm. Good, straight-up fences are not particularly needed, temporary cribs will hold the corn till dry enough to shell. A little stabling or shelter holds the horses needed. A little old, inconvenient house can be made to do; the occupant, whether renter or owner, is not thinking of living his life there. It is not worth while to replant the orchard; nor put a better fence around the excuse for a garden. There are no green pastures. They are not needed and could not be used, just fields, fields of raw dirt, open seven or eight months of the year to wash and leach of rains and baking sun; gullied by torrents unhindered by opposing grass roots.

There is some plowing and harrowing in the spring, some planting and tilling, then corn husking, this year, the same next year and the next and the next. Such is not a very cheerful place nor such a very cheerful life, nor is such very cheerful work for boys and girls. I can not blame them for leaving. Their young, growing, vigorous minds must be engaged, be occupied. They must have something more to live and grow and feed upon physically, mentally and morally, than such a farm and such a farm life affords. Good houses, bountifully supplied, good barns, good fences, good granaries, trees, orchards, clean fence rows, green pastures, go with farms and neighborhoods where live stock is kept. There are books and periodicals related to the business. There are visits to fairs and expositions. There is enthusiasm and the spirit of emulation. There is study—mental work and exercise as well as physical.

There is touch and connection with the world of business and of thought for the boys and the girls who live on the live-stock farms.

There is a share in its excitements and pleasures. Live-stock husbandry is intimately, yes vitally, connected with agricultural prosperity because it may be made the means, and is the very best means I know, of keeping the young people on the farm.

**LESS LIVE STOCK RAISED THAN FORMERLY.**

We have about twenty-six millions more people in this country than we had in 1880. Fifty per cent or even a larger per cent more, and I doubt not that our people are for the most part, better able to buy and use the things they need or wish to buy for their comfort and pleasure than they were twenty years ago. There is increasing demand for our meat in foreign countries.

But over against this we have only a few more cattle and horses and mules and sheep and swine than we had in 1880. Sixteen years, anyway, out of the last twenty, we had more cattle other than milk-cows than we have now, and several years out of those sixteen, we had eight or nine million more of this class of cattle, and one year as much as ten million more cattle, other than cows, than we have now.

Milk cows have increased about 33 per cent in the last twenty years, but even this increase is not in proportion to our increase of population. And besides, the milk cows do not cut much figure in the meat supply. Somebody is going to have the opportunity of furnishing the world with beef, and other good meats, and with horses and mules, at good paying prices. No farmers anywhere are as well equipped and conditioned to take advantage of this great opportunity as the farmers of the Middle-Western States—the corn belt. Over all this vast region, all the feeds required to make the best beef and other meats are produced in the greatest abundance. The climate is well adapted to the business; the average farm

equipment and improvement with little change or addition, can be well suited to the business. Farmers of the corn belt have the capital and intelligence needed in the business. They have shipping facilities almost complete. They have already a good, although not adequate stock of meat-producing animals.

It is almost as natural as it is for water to run down hill, that the corn belt of the United States should have the business and the profit of furnishing the world the largest share of its good beef and pork. It is now furnishing more of these than any other region, but we are not nearly working up to our capacity nor to the demand. The corn belt should become and is to become, I believe, noted as the great good beef and pork producing region of the world.

No region anywhere can compete with us. When the corn-belt farmers are fully aroused to their advantages, a handsome share of the world's money will be coming their way and it will keep coming and increasing, to add to their wealth and prosperity. But our lands are high and many of our farmers have abandoned the breeding and feeding of meat-producing animals because they think they can not make it profitable on their high-priced land. Do not let the high prices of lands scare you, my fellow farmer. Our lands are high now, but not so high as they are going to be in the near future. What makes our lands high priced? Their fertility, their geography, their proximity to market, their facilities for shipping and the intelligent and progressive people who live on them. But these are the very things and conditions which make it possible and practicable for us to furnish the world with its good meats.

Shall we permit our very advantages, the very possibilities of our situation, to stand in the way of doing that which we are so well prepared to do and which should be so profitable for us to do? Beef and pork and mutton and horses and mules can be bred and reared and fed at profit on this land, high priced as it is. It can be done with profit when they are still higher. How to do it, is the thing we must learn.

It is for the leaders of agricultural thought and experiment to teach our farmers how to raise and feed live stock on this high-priced land with profit. Certain it is beef and pork can not be made with profit on high-priced land by any old-fashioned, wasteful, prodigal method. As farming will have to be intensified as land advances in price, so with feeding and breeding meat-producing animals. We will have to

**INTENSIFY THE PROCESSES.**

Therein is the key to success in the business. In beef production, with the passing of cheap lands, the 3-year-old steer must go. It is entirely practicable by simple, natural, economical methods to produce prime beefs of 1,400 to 1,600 pounds weight at 20 to 30 months old.

We have produced a car-load of steers weighing over 1,700 pounds at 31 months old; ripe, prime, finished, ready for the very highest market demands, except as to weight, and the only trouble is that regard was that they were to heavy for the very best market, showing that in less time the best weight may be produced. We must eliminate and can eliminate a year or more of time from the process of making a prime beef. Do it. How? The whole mission of a steer is to convert our feed into beef. Keep him busy every day at his proper work. Any day that a steer is not furnished with all the feed he can safely and perfectly convert into beef, that day he is failing to make the money he is capable of making you. The greatest weight of beef can be made with a given amount of feed during the first 20 or 24 months of a steer's life. Give it to him during that time. The best beef can be made during the period of a steer's most rapid growth. Intensify your feeding and breeding; this is the way and the only way to make meat production profitable on high-priced land. It is long years since we learned how to feed pigs in this way. You know how we used to let the hogs run until they were a year old and older and then fatten them. Nobody feeds hogs in that way now. Take a lesson from your pig feeding and breeding, and apply to your cattle feeding. Long ago we began breeding for a compact, close built, early maturing hog. Do the same in your cattle breeding.

You will see more calves in feed lots in the next three or four years, than the oldest of you have seen there in all your lives before.

It is my opinion, not only that the greatest weight of beef for the feed consumed, but also the best beef is made by supplying a steer liberally and constantly, with the right kinds of feed and in the right way, during the first 20 to 24 months of his life.

It stands to reason, and our experience points to the fact that the thickest red meat with the richest intermingling of fat can be more certainly produced during the period of the steer's most rapid growth. In other words, we believe in growing beef, not in growing steers to be fattened for beef. It is the quickest, surest, most economical method of making high-class beef. You will see many breeders and feeders of beef cattle will hereafter treat their cows and calves much as they now treat their sows and pigs. Let the cows have the pastures and the roughage—let the calves designed for beef have the feed-lot and the feed. Things are moving—land rising—taste becoming more discriminating. Where can the farmer move up—make some progress in his beef making?

I see but two places; first by striving for and breeding for a more perfectly

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adapted type, and then by losing no time in covering that type or frame with high-class meat. We must keep up with the procession or be left behind.

Beef bred right, fed right from calves to finished product weighing 1,300 to 1,500 pounds, dressing 66 per cent, can and will be sold by telegraph and telephone, because the customer will know he is getting the best beef that can be made, and that is no use going to the trouble to visit the market.

I have more than once sold my beef by the carload at my own price in Buffalo, by telegraph.

Suppose we say, gentlemen, that in order to put the beef business on such a plane of excellence as many other manufactures have reached, and in order that beef making and all meat making may contribute as it should to agricultural prosperity, we must make an article that can be and will be sold by telephone, then you have it about as well as I can put it.

#### Improvement of Farm Crops.

JAS. ATKINSON, EDITOR HOMESTEAD, DES MOINES, IOWA.

The primary reason why the average yield of crops in the Central West is not larger is that we are not sufficiently versed in the principle of soil cultivation. Although the climate of this State is admirably adapted to the production of many crops, yet it must be acknowledged that even cereal crops can not be grown in their highest perfection without the exercise of skill on the part of the grower. The high summer temperature hastens maturity, resulting in the production of light grain, thus making odds against which farmers must work. The breeding up of cereals that will withstand adverse conditions, and produce profitable crops under all circumstances is the task that is always before the farmer. With almost ideal conditions prevailing over a large area of the State for the production of corn, yet there is no crop that today stands more in need of improvement. It should be remembered that while the principles of improving our crops may be of general application, yet in practice improvement is a matter of local import and must be carried on within the limits of narrow boundaries. In other words, it is not practicable to allow our Iowa, Nebraska or Illinois neighbors to breed up varieties of corn to a high state of perfection and expect that such corn, when brought to the State of Kansas, will give as satisfactory results under the new conditions as under the old. There are those who are of the opinion that substantial progress will not be made in this direction until the best known methods are applied by each farmer within the boundaries of his own farm. One of the commonest mistakes made by the farmer of the Central West is that of seeking to work an improvement in their crops by the introduction of that which is novel. Possibly I can best illustrate why this practice should be discouraged to the greatest possible extent by an experience which came under my observation during the last few years. In 1898 I purchased twelve improved varieties of spring wheat in the State of Minnesota. These wheats by actual test were found to be superior to the Fife and Blue Stem varieties when grown in Northern areas. These wheats were sown under favorable conditions the first season, with the result that the best of them did not yield more than half a crop of shrunken, unsalable wheat. This light grain was again sown, with the result that the second crop proved to be an improvement, but the point I wish to make is this: Had this crop been depended upon as part or all of the revenue of the farm the results would have been most disastrous. It is the work of the experiment station to search for what is new and valuable, and not the farmers. Insofar as I can explain the conduct of the wheat in question, it was simply following nature's beaten paths. Sudden changes in environment unquestionably stimulates variation, and this more frequently than evolution to a higher form.

#### HANDLING THE SOIL.

I said that the manner of handling the soil was of first importance in working any improvement in crops. In this connection we can not overlook the fact that rotation is of chief importance. As good feeding and good breeding are the two fundamental factors in successful stock raising, so do we find good soil and good seed to be inseparably associated with profitable crop-production. In undertaking to produce a good crop of any kind one must first have the soil in just the right condition for that particular crop. In wheat growing, for example, a firm soil is of first importance, and no amount of care given to seed will be followed by satisfactory results if the seed-bed has not been properly prepared. Wheat also requires liberal feeding and should not be separated in the rotation far from a legume crop or a coating of manure. The oat crop, on the other hand, is less fastidious in its habits and may be grown on poorer soils that are less compact. Oats grown on soils highly charged with vegetable and nitrogenous matter seldom produce profitable crops. It being first necessary to tone down the raging fertility of the soil before satisfactory results can be obtained. Barley is a surface feeder and should be grown on rather fertile but well-prepared soil. Corn is a gross feeder and a deep rooter hence the wisdom of manuring and clovering for this crop. It will be disappointing if attempts are made to improve corn unless the soil upon which it is grown is well charged with vegetable matter, and is generally in

good physical condition so that mineral elements are freely liberated. The reason for this is that corn gradually adapts itself to its environment, growing large when well nourished, but taking on dwarf characteristics when the supply of plant-food is meager.

#### HOW TO IMPROVE CORN CROPS.

In effecting any improvement in one's crop, two plans may be pursued. One would be to purchase a small quantity of improved seed-corn, and in this way take advantage of years of patient effort on the part of some one else. Such corn should be purchased in the ear, and it is exceedingly important, as previously pointed out, that it be introduced from sections where conditions are similar to those to be found in the locality into which it is introduced. A bushel of such corn may easily be made the foundation of a future seed supply, not only of one farm but of an entire neighborhood. The other plan which might be pursued would be to select the very best corn from seed that is known to be well adapted to local conditions. All things considered, fewer mistakes will be made by the adoption of this plan than by the introduction of seed from other localities. In either case some special pains must be taken with part of the crop. This involves the selection of a few of the best ears, and the planting of these in such a location as will induce to the smallest extent pollination from other varieties. Under average farm conditions these few ears will usually be shelled and mixed before planting, so that it will afterward be impossible to trace the history of any row back to an individual ear. In case one has the time it may be advantageous to plant the seed from one ear in one row. If a few rows are planted in this way it is then possible to select the best row, making the seed from this row the basis of still greater improvement. The fact that the yield from different rows, the seed of which came from ears apparently similar, varies greatly, leads us to believe that there is much to recommend this system of planting. From the best row, or rows, the first year the most perfect ears should be chosen to furnish seed for a few special rows the following year, while the balance of the good corn from all the seed rows could be used for planting the entire crop. In this way the general crop is improved from the beginning, which is, after all, the essential factor. It is undoubtedly advantageous to take special pains in cultivating a crop when the seed has been selected with some care, and improvement will also be made faster if tassels are removed from barren stalks before the shedding of the pollen. We realize that this part of the work will be omitted by a great majority who undertake to improve their corn because of the fact that it may seem tedious and the effect is not at first apparent. However, we should like to emphasize the importance of this in seeking to bring about improvement. It has been demonstrated beyond a doubt that barrenness is sooner or later almost entirely eliminated when this precaution is taken, and this in itself will add from five to twenty bushels per acre to the crop. In planting, care should be taken not to use too much seed, and it is highly important that as nearly as possible the same number of kernels be dropped in each hill. This necessitates shelling off of the butts and tips because kernels from the ends are irregular and will always induce uneven planting.

#### DEEP KERNELS FOR SEED.

Before leaving the subject of corn I would like to emphasize the importance of becoming familiar with the points that should be observed in its selection. It is commonly assumed that all persons engaged in corn raising are at any time able to select the best corn out of a given assortment. Fortunate indeed would it be for the farmers of the Central-West if this were true. Comparatively few persons know just what constitutes a good ear of corn. In most cases undue emphasis is placed on length of ear while less importance is attached to depth of kernel, size of cob, covering of ends, purity of color and trueness to an established type. I have in mind an instance which illustrates this point very clearly. At an institute in Northern Iowa a large exhibit of corn was made, prizes being offered for the best samples. The exhibit that was given first award was uniform in color, true in type, deep in kernel, well filled at ends, the ears being about ten inches long. Scoring many points below this one was another exhibit of corn the ears of which averaged about twelve and one-half inches in length, the kernels were shallow, the ends somewhat deficient and the corn presented a somewhat flinty appearance. The owner of this last exhibit took to task the judge who was obliged to give reasons for his decisions. After these were given the statement was made by the grower that, regardless of the points of merit that were shown in the first-prize exhibit, the long corn would outyield the other when grown under similar conditions. The man who grew the first-prize exhibit was then called for, and explained that he had grown both varieties on a large area and that the shorter, more highly bred corn averaged ten bushels per acre of shelled corn more than the other. To those who were familiar with the characteristics of good corn this was no surprise, and yet it answered the purpose of illustrating the erroneous conceptions that are held in regard to what constitutes merit in an ear of corn. In the State of Kansas it is undoubtedly possible to grow good corn that is ten and a half or eleven inches long, and yet I would like to emphasize

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the importance in selecting for deep kernels, an absence of flintiness, as well as well-covered tips and butts.

#### IMPROVING SMALL CEREALS.

Regarding the principles of improvement that are applicable to the smaller cereals it may be said that in a general way these are similar to those employed in the improvement of corn. For practical purposes the free use of the fanning mill is the most common method of grading up small cereals. A great many experiments have been conducted which go to prove that the selection of the heaviest grain from year to year will work an improvement not only by way of increasing the yield per acre but also the weight per bushel. I have in mind an instance of this kind where a farmer who grows 2,000 acres of oats annually has succeeded in improving his seed by this method to such an extent that it is not an uncommon thing for him to obtain an average yield of eighty bushels per acre over his entire area, the seed of which weighs forty pounds per bushel. The selection of a few of the best grains from each head, which is practically what takes place when the fanning mill is used judiciously, is similar to that of choosing the best pig out of a litter, or the keeping of the best heifer from a certain cow for the purpose of working improvement in the herd. When I advise the use of the fanning mill I have in mind cleaning out the best half of the seed or possibly the best third. So much the better if a little pains can be taken in securing the seed from the part of the crop that has given the most satisfactory returns. This might be done by choosing a load or two and storing this where it could be specially set apart for seed. The time of ripening may be materially changed in the course of a few years by selecting from that part of the field which ripens first, or if it is desired to delay the ripening period the grain may be chosen from such portions of the fields as are latest in maturing. Although the prime object in all this work of improvement is to increase the yield per acre, yet it should be kept in mind that strength of straw and freedom from rust and smut are important factors which contribute to the end sought. This should play a prominent part in enabling one to decide on the part of the crop that should be saved for seed.

For a finer selection than is recommended above it will be necessary to deal with individual plants, and this is more the work of the experiment station than that of the farmer. Where one chooses to do so it may prove profitable to select a few ideal plants from the field and make these a basis of a breeding plat. The second year the best plants could again be chosen and so on until sufficient seed was obtained to sow a considerable area. Where this line of work is taken up one must become a close student of plant life, so that the correlation of all the parts are fully understood. It will not do, for example, to select plants having long, heavy heads unless the straw is sufficiently strong to support them through our heavy storms. On this point I should like to call attention to a possible error that we have already fallen into, namely, that of aiming to produce heavy-headed varieties which invariably are disappointing because of the fact that they are liable to lodge. It is more important that we produce varieties that stool out well and that the same should be strong in the straw. This is illustrated in the Turkey Red wheat which is a splendid stooler but very short in the head, and yet there is little difficulty in getting forty, fifty and sixty bushels per acre when conditions are favorable. The same principles apply to all our cereals, and in fact to many other crops. The heavy storms that are liable to occur at any time constitute a constant factor, so that at all times energies that are expended in the direction of strengthening the straw will be found to affect favorably the yield of grain.

No occupation requires a higher intelligence than agriculture when earnest effort is devoted along lines of improving plants and animals. Such work not only

lies at the foundation of our prosperity, but incidentally it furnishes the keenest pleasure and reacts upon the worker, making him a more interested student in nature's methods, a keener observer, a more accurate worker and a more painstaking man.

#### The Ideal Woman.

MRS. HILL P. WILSON, LAWRENCE, KANS.

I have been something of an agriculturalist in my time; indeed I think I may say without undue boasting, that I know pretty much all there is to know about farming. I have taught the artificially orphaned calf to drink, and induced its bereaved mother to give up, or rather down her milk to me instead of to her offspring. I have set innumerable hens, and shooed countless broilers to roost night after night without ever teaching them where they ought to go. I have chased pigs for hours, without ever getting them where I wanted them, and I have converted the carcasses of those same pigs, when larger grown into most excellent sausage, hams, and bacon. I have invested my hard earnings in incubators, bone-mills, and vermin-exterminators; and have withstood, with varying degrees of success, the wiles of tree-agents, lightning-rod peddlers and vendors of steel ranges. I know what it is to struggle with these burning economic questions. Why will hens persist in laying when eggs are five cents a dozen, and desist therefrom when they are twenty-five cents? Why is there so much more butter for market when it is twelve and a half cents a pound than when it is thirty cents? And why is corn fifteen cents a bushel when you raise a crop, and fifty cents when you do not? I have jolted over furrows, measuring plowing, with my eyes glued to a handkerchief tied on the front wheel of the vehicle into which I had been inveighed for a pleasure ride, until my eyes are permanently weakened, and my spinal column permanently dislocated. I have herded cattle, shocked wheat, cooked for harvest hands, and fought prairie fires; but I stopped being a farmer some years ago, and it came about in this way. The partner of my agricultural labors, that is to say the man who furnished the money for my experiments, decided, once upon a time, to plant a certain field. Unfeeling friends, who still delight in telling this story at our expense, lay especial stress upon three facts: The date was 1889, the year when the great agricultural revival swept over Kansas; the field lay along side one of the roads most traveled by the voters of the county; and the man who proposed to do the planting was a candidate for the legislature. I have never been able quite to see what these facts had to do with the story, but perhaps you can. At all events the head of the house decided to plant that field in person, and I, inspired by the recollection of "The maid who bound her lover's sash," and other heroic women of history decided to help. Just whether we planted wheat, or potatoes, or what, I do not remember, but I do remember we used a lister. The preliminaries arranged, we started out. I say, we, advisidly, for I went every step of the way across that field beside the man who drove the horses, beguiling the weary way meanwhile with encouraging conversation. I also came back, still conversing, but when we reached our

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starting point, the hired man, who had been watching our progress, went into paroxysms of laughter at discovering that we had forgotten to put down, or up, a certain handle or something, after we turned around and had made the return trip, clear across that thirty-acre field without planting a single seed. And the man whom I had been trying to help, said it all happened because I talked too much. Then and there I retired from agriculture as a vocation. I have still, however, a great many valuable ideas on the subject, which I should have been happy to present for your benefit, but for an unfortunate mistake of your honorable secretary. When inviting me to talk, he asked me to select some topic that would be of interest to the farmers' wives, but said never a word about the farmers themselves. Naturally, I imagined that the farmers' wives and myself would get off into a quiet corner somewhere, resolve ourselves into a mutual admiration society and have an ideal time; and I selected my text in harmony with that idea. And now comes the editor of the Atchison Globe, and takes exception to the appearance of the Ideal Woman on the program of the annual meeting of the State Board of Agriculture. He says it gives him a headache: I do not want to be severe, but really I think the editor of the Globe is a little selfish. Does he want to monopolize the attention of this body? We discussed the hog this morning.

Let me comfort you just here with the assurance that the ideal woman, about whom I mean to talk to-night is not really so ethereal and impracticable a creature as might at first glance appear. Philosophers tell us that the ideal is attained by selecting and assembling in one whole the beauties and perfections which are usually seen in different individuals so as to form a type or model. I am going to select some of the beauties and perfections I see in various women of our State, past and present, and when I have pictured them as best I can, I shall leave each one of you to form your own ideal woman, by just such a combination as suits you best, of the material I have furnished.

KANSAS HAS THE HAPPIEST HOMES.

The most contented men, the handsomest children, the most prosperous churches, the best schools, the biggest wheat crops, the tallest cornstalks, the fatest steers, the most helpful hens, the redest apples, the greenest grass, the bluest skies and the balmiest air of any State in the Union, and she owes all these excellencies to her women! She could not be a State without them. She never would have been a State "To live in song and story," had not the women of territorial days stood shoulder to shoulder with the men in their battle for freedom. She did not march nor fight, nor die, the woman of those early troublesome days, but hers was the far harder part. She gave without a murmur her heart's dearest to the cause of freedom; she carried uncomplainingly the double burdens laid upon her by the absence of breadwinner and protector, she bore the agony of suspense, and she scarcely greater agony of bereavement with brave if breaking heart; and when the war was over, she shared the work of gathering up the scattered threads of life and labor. Thank God for the brave women of those early days: They helped lay the foundations of our statehood broad and deep. And on that foundation the women of later days have done their part in building the fair edifice of which we are so proud.

Nowhere have they done better work than in the home, although their labors have by no means ended there. We are all familiar with the poetic saying to the effect that the home is woman's kingdom, but only actual experience can teach what an amount and variety of knowledge is necessary to the successful management of that kingdom. Two men away back in the fifteenth century seem to have discovered something of this, for one of them has handed down to posterity this truthful saying "Woman's work is never done." While the other exclaimed "A woman has nine lives like a cat, and she needs them all." My private opinion is that those two men grew wise through suffering, that is to say, they tried to manage the house and the children while their wives were ill, or gone to the city for a day's shopping. Nothing in the world so increases the average man's respect for a woman's ability, as an attempt on his part to do some of the things that seemed so easy of accomplishment when she did them. Even that prince of woman

haters, Euripides, admitted centuries ago that she needed an especial equipment to manage the home. And if she needed it in that day, when people were ignorant of the existence of microbes and bacteria; untroubled by questions as to the relative value of nitrogenous and carbonaceous foods; and blissfully unconscious that they possessed a second stomach and a vermiform appendix, what does not she need to have now, when science is every day discovering some new danger against which she must guard her family and modern ideas are every day creating new demands upon her physical strength and mental vigor.

MY KANSAS HOUSEKEEPER

Is equal to these demands. She knows that three requisites are essential to the development of healthy human lives: good air, good water, and good food. She knows that it is easier to keep well than it is to restore health when gone. In times of dangerous epidemics she does not bow blindly to the dispensations of an inscrutable Providence, to question which were both profane and useless, but she goes to work to find out what laws of nature, immutably fixed by nature's God, she or her neighbors have violated, and then applies the remedy to cause as well as to effect. She knows that good food is not merely food that pleases the palate, but such as will best feed the ever-burning furnace within the human body, and make brain, as well as bone and blood. She is the magician who "transforms the common and gross into the refined and spiritual, and out of waving wheat, wasting flesh, running water and dead minerals, realizes the glorious possibilities of human life."

She is equal to any emergency, from the unexpected arrival of guests when the bread is out, to the unlooked for departure of her maid of all work, just when the baby has the croup, and the older children's vaccination has begun to take.

The finesse of the ablest statesman is crude when compared with the subtle wiles by which she gets the man of the house into a good humor, before breaking to him the news that the coal is out, or that the plumber's bill is in; and she is entitled to take front rank among the financiers of the country because of the mastery skill with which she makes an income that was rather limited for two people, keep five or six in comfort.

She is given to hospitality, this Kansas housekeeper of mine, and enjoys giving of her best to her friends, but she does not scrimp her family six days in the week in order that she may entertain sumptuously on the seventh; nor does she so wear herself out with lavish preparations, until she is more fit for bed than for society when her guests arrive. She may not have time to prepare seven kinds of cake, with salads and sauces galore when she has a few friends in to tea, but she does have time to read the daily papers, and can talk of what is going on in the world. Her mind is as well furnished as is her house, and her wit outshines her glass and silver. She does not keep a set of books wherein are entered her social debts, to be paid scrupulously in kind—a dinner for a dinner, a luncheon for a luncheon, a reception for a reception; nor is her hospitality for her friends alone, or for those who can repay it; she seeks out the young man whose only home is a boarding house; the young woman struggling alone for a livelihood; the boy who is being tempted by evil associates; the motherless girl, whose feet perhaps are straying toward the downward path, all these she brings within the gracious influences of her home, she gives them of her best, according to their needs, and they go away cheered and strengthened. My hostess does not welcome to her home, and the society of her daughters, the man of known evil habits, while shielding them carefully from contact with the woman of like character, nor does she hold up hands in holy horror at poker games, or Louisiana Lottery, and give progressive euchre parties with first and booby prizes. In short, her hospitality is for service, not for show; her manners are not formed by books on etiquette, but are the outward expression of an innate kindness, and she is an exponent of what Stevenson calls the "Theorem of the livableness of life."

THE KANSAS MOTHER.

I should need much more time than is at my disposal to do justice to the Kansas mother. She is, as have been mothers the world over from time immemorial, an embodiment of the di-



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vine in the human. Her love is without limit, her self-sacrifice absolute, her efforts for her children untiring. She endures weariness, sorrow, or pain gladly, if she may bear it for them, and feels no labor hard for their dear sakes. It is her mission to care for their bodies and their minds; to form the characters that shall be an influence for good to coming generations; to instill principles of truth and honesty, of love for God and man; to direct the natural desires and propensities that they shall prove a blessing and not a curse; to so develop the talents and faculties of her children that they may do well their work in life. Surely the woman who trains faithfully and wisely the future citizens of the State, deserves the commendation "Well done, good and faithful servant."

That distinguished citizen of Topeka, who has on several occasions led the democratic forces of the State to glorious defeat, said once in a political speech: "Wifehood and motherhood furnish ample scope for the employment of all the energies of all true women." This epigrammatic utterance was widely copied and some newspapers grew almost hysterical in their commendation of it, but is it really good sense? It is a very beautiful idea that women should remain within the safe and happy shelter of the home; but suppose you haven't a home to shelter in? It is a very alarming thought that you will forfeit your right to the chivalric regard and protection of mankind if you come into competition with them in the avocations of life; but suppose there are little mouths to be fed, and little bodies to be clothed, and only you to do it? It is shocking to contemplate that you must leave your womanhood on the bank if you plunge into the stream of active business, but is it not trying to resign yourself to sitting on the bank, and watching others disport themselves in the flood, while you feel within yourself the power to swim as well as they? It is a fortunate thing for Kansas that all her women do not conform to the limitations set upon them by the aforesaid citizen of Topeka. Our State would be the poorer in many ways if they confined their energies to the limits of the home. Aside from the fact that wifehood and maternity do not come within the province of all women, is the other fact that those to whom it does come can fulfill the duties of wives and mothers, and still have time and energy to work for humanity at large, or to add to the material wealth of the State. I doubt if there is a town in Kansas which has not within its limits one or more commercial enterprises successfully carried on by women. Some of these women went into business from choice, many others have taken up the burden as it fell from hands palsied by disease or death, and are carrying it bravely and well.

IDEAL OCCUPATION.

There are able and successful doctors, lawyers, editors and teachers among the women of our State; some of them have made enduring contributions to the poetry, literature, and art of the country, and indeed many avenues of employment are open to them, nor are they opened in the grudging spirit which influenced that school board in a New England town, of which Colonel Higginson tells, when it resolved that "as this position offers neither honor nor profit, we see no reason why it should not be held by a woman."

In addition to the work she does in church and Sunday schools, missionary societies and charitable associations, the influence of the Kansas woman is strongly felt in civic and moral matters.

I doubt if we should ever have had prohibition but for her prayers and labors. Now prohibition may not prohibit; the consumption of liquor may not be decreased because of it, and perhaps we have an oversupply of drug stores whose net profits exceed their gross receipts, but every day Kansas mothers thank God that their sons are growing up in a State where there are no open saloons, and where liquor selling is not made respectable by the sanction of the law. Prohibition has come to stay. My Kansas woman will take care of that.

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both as to traction and generating and supplying power, are typical of all that is best for threshermen. They are rear geared, gears are of steel, cross heads and slides are protected from dust, they are free from all trappy devices. Single or double cylinders, burn wood or coal, or direct fire for burning straw. Fit companions in the threshing field for the famous New Rumely Separators. Free catalogue describes all. Write for it.

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She has the courage of her convictions and is not afraid to express them. The force of feminine opinion in our State was strikingly illustrated during the last session of the legislature. There arose a prophet in that august body, who foresaw dire results from the continuance of municipal suffrage for woman. This far-sighted individual, having satisfied himself beyond the peradventure of a doubt that woman's suffrage, as it exists, is debasing not only the women but the men of our State, and that a further extension of this franchise threatened the subjugation if not the total extinction of his sex,—gave notice that on a certain day and date, he would introduce a bill to repeal, rescind, abrogate, abolish, revoke, annul, cancel, and otherwise wipe from the statute books the law giving women a vote at municipal elections. Now Kansas women want to vote at municipal elections, that is, some of them do, and those who do not themselves want to vote, want those who want to vote to vote—if they

want to—and I cannot tell you better what happened to the legislator and his bill, than by quoting the closing words of the poem of our childhood about the boy who stood on the burning deck.

"The boy, oh, where was he?  
Ask of the winds that far and wide  
With fragments strew the sea!"

#### THE CLUB WOMAN.

No talk about the Kansas woman would be complete without a word as to the club woman, several thousand of her. The most remarkable thing about the Kansas club woman is the awe-inspiring, all-embracingness of her knowledge. She knows all about Buddha, Browning or buckwheat cakes, and can talk with equal fluency about the higher criticisms of the hired girl. She can tell you with the same readiness the date of the Italian Renaissance, or the day and hour when her first baby cut its first tooth. She is equally capable at figuring out the next transit of Venus, or at cutting a shirt waist from a yard and three-quarters of goods by a pattern that calls three yards and a half. Unlike Horatio, there are few things in heaven or earth of which her philosophy has not dreamed, and what she has "dared to dream of, she has dared to do." Public parks and fountains, kindergartens and rest-rooms for farmers' wives, industrial schools, traveling libraries and art galleries, scholarships in high schools and universities, improved civic conditions and beautified schoolrooms; these are some of the dreams she has transformed into realities, and her work is only well begun. The woman's club has ceased to be an experiment, it is no longer a jest for flippant men and irreverent newspaper paragraphers, it has even ceased to be merely an organization for the culture of its members, and has become a nucleus of altruistic activity, the center of an ever widening circle whose circumference will one day touch the stars.

#### THE WOMAN OF THE FRONTIER.

But it was another Kansas woman who made possible the realization of these beautiful dreams; the woman of the frontier, the woman on the claim, whose faith, and courage, and industry helped fight the battle with poverty and disappointment; win the victory over almost unsurmountable obstacles, and give Kansas the place it holds as an agricultural State today. I wish I had the gift of language that I might paint for you the surroundings and trials of this woman, as I have so often seen them. Can you picture for yourselves the home? Dug out of the native soil and rising scarcely above it, the floor of the single room of earth, its roof of sod, its furniture rude and scanty. No house nor tree nor shrub to break the monotony of the prairie all about—that prairie so beautiful in its flower-bedecked spring dress of green, but so unspeakably desolate under its covering of dead grass, or of snow. Near neighbors there were none, nor church, nor school, nor store. Instead of the whistle of trains, those cheery notes of connections with the outside world, she heard the plaintive call of the quail and meadow lark by day, and by night the lonely howl of the coyote. Amid such surroundings this brave woman lived, and reared her family. She bore the pangs of maternity unsoothed by medical aid; she nursed her sick with no medicines save the simplest home remedies; she laid her dead away on the lonely prairie, with naught save the fresh-turned earth to mark their last resting place as hallowed ground. Year after year she shared the battle against the untoward forces of nature; month after month she watched the clouds gather and break away without bringing the needed rain; day after day she saw the south winds parch and wither the green fields where lay their hopes of bountiful harvests. She saw her husband growing old before his time, and her children ragged and shoeless. As crop after crop failed the conditions became pitiable. The last cow was sold to buy flour or seed; the little flock of chickens was disposed of because there was nothing to feed to them, the cellar held no vegetables, and the cupboard little food, but this brave woman never faltered. She contrived nourishing meals from almost nothing; she made garments from materials that an old-clothes man would have rejected with scorn; she managed in some incomprehensible way to keep her husband hopeful, and her children in health. All this she did with never a suggestion of giving up the battle, never a whimper of defeat, and she won. The arid region has moved out of sight, and the

wilderness blossoms. A well-built house has succeeded the dug-out, and laden granaries, fertile fields, and grazing herds fill all the landscape. There is a comfortable carriage under the shed, and books and pictures in the parlor. The sons and daughters are at college, and the father and mother are enjoying the well-earned fruits of their labor. She may not be beautiful, this Kansas woman of mine, measured by artistic standards, but every knotted vein on her hands tells of duty faithfully performed; every wrinkle in her face is a record of trials bravely borne; and every gray hair in her head is an added gem in her crown of honor.

#### The Live-Stock and Agriculture of Northwest Kansas.

OTIS L. BENTON, OBERLIN, KANS.

Kansas is a young State and her development and progress has been marvelous. As government land in the eastern part of the State became scarce, settlers said, "Westward; ho Westward," with much the same ambitious spirit that influenced our fathers to leave their eastern homes and come to Kansas forty years ago, where they so bravely and nobly planted the flag of freedom on virgin Kansas soil. The very early settlers in northwest Kansas came believing it to be an ideal grange country, where cheap grass could be had and cattle could be raised with small expense. The first settlers were usually successful and made money. Agriculture was little considered. Settlements were few and far apart. The Indians and cowboys vied with each other in possessing the range, but gradually both were banished and the day of the small farmer began. Government land-offices were established. Homesteads, pre-emptions, and timber-claims in time covered every quarter section. The boom commenced in good earnest. There are few Kansans who have experienced the boom days who do not now pray that the departed boom may return no more.

The heritage left us because of the early trials and failures in northwest Kansas is the priceless knowledge that diversified farming is a success. The earliest settlers with unlimited range could make a living, but with the constant advance of civilization the cowboy had to go, although large and beautifully appointed ranches with their extensive pastures, filled with high-bred cattle, are being profitably and successfully operated. Next came the farmer without live stock as an industry, and his failure. But from necessity we now have the farmer who sows and reaps, who has a splendid herd of well-bred cattle; nor does he forget the production of horses and mules. The raising of poultry for home use and its sale, together with the sale of eggs in many instances almost buys groceries for the entire family. Much butter is marketed, but during the past few years creameries and skimming stations have been established in almost every neighborhood in northwest Kansas, and the most prosperous farmers are receiving from \$25.00 to \$100.00 per month from the sale of butter-fat. Our natural grasses are rich and are great milk producers, while the culture of cane and Kafir-corn for winter use has proven a sure crop every year, so that today our farmers can confidently figure on a sure income from this source, regardless of rainfall sufficient to raise other crops. These industries can be handled with slight expense, and largely by the good housewife and children, and do not prevent the farmer from cultivating his fields of corn, wheat and other crops. These facts, having been fully proven by time and experience, our population is no longer transitory, and the securing of a home provided with the necessities and some of the luxuries of life, no longer an experiment. With the ever increasing population of the entire country; the universal ambition of every true and noble man to possess a home of his own, the time is near at hand when every available foot of ground will be in urgent demand. It may be readily seen that our country is capable of accommodating a very large population and is destined to be very rich. We extend cordial greeting to any seeking new homes, and those who embrace these opportunities first will secure the choicest farms and best locations. Those now, not permanently and satisfactorily located in a home of their own cannot afford to remain where they are longer, but should come at once, and see the country for themselves. A personal visit will enable them to select wisely.

#### OUR UNFAILING ALFALFA.

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Motherhood is woman's natural destiny—  
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Many women are denied the happiness of children simply because of some curable derangement of the generative organs.

Among the many triumphs of Lydia E. Pinkham's Vegetable Compound is overcoming cases of supposed barrenness. Thousands of children owe their existence to Lydia E. Pinkham's Vegetable Compound. This great medicine is so well calculated to regulate every function of the generative organs that its efficiency in this respect is vouched for by multitudes of women.

#### Nine Years Without a Child.

"DEAR MRS. PINKHAM:—We had been married nine years and never had children, and now we have a little baby girl nineteen months old, the joy of our life. She owes her existence to Lydia E. Pinkham's Vegetable Compound.

"Before taking Lydia E. Pinkham's Vegetable Compound I was a constant sufferer. I had pains in my back and sides, especially before menstruation. I had doctored but received no benefit. Hearing so much about the Vegetable Compound I decided to try it, and after taking six bottles was cured."—Mrs. T. H. GOULBEY, 1223 Nevada St., East Toledo, Ohio.

#### Portrait of a Baby Girl Who Owe her Existence to Lydia E. Pinkham's Vegetable Compound



"DEAR MRS. PINKHAM:—I wrote to you some time ago asking why I could not have a child. I explained that I had displacement of the womb and ovarian trouble, and suffered with backache and headache. You sent me a nice letter in reply giving me full instructions how to treat myself, and in accordance with your directions I took your Vegetable Compound, and followed your kind advice faithfully in every respect, and now I have a little girl, the joy of our home. I never would have had my baby if it had not been for your advice and medicine.

"I cannot praise Lydia E. Pinkham's Vegetable Compound enough for what it has done for me. I hope other childless women will see this letter."—Mrs. JOHN UBER-LACKER, 1111 Broadway, Cleveland, Ohio.

#### Another Happy Case in Brooklyn.

"DEAR MRS. PINKHAM:—I wrote to you a year ago telling you of my troubles. I had pains in the ovaries, menses were painful, and I had never borne children.

"You answered my letter and I followed your advice. I was completely cured. Have just given birth to a fine, healthy babe, and during childbirth had a very easy time.

"Lydia E. Pinkham's medicines are a God send to women who want to be mothers."—Mrs. SCHULTZ, 12 Luzner St., Brooklyn, N. Y.

Many women whose letters we print were utterly discouraged, and life lacked all joy to them when they wrote Mrs. Pinkham, Lynn, Mass., without charge of any kind. They received advice which made them strong, useful women again.

of the surest, is the raising and marketing of hogs. And with this must be considered the culture of alfalfa. The alfalfa plant is the most wonderful yet introduced in northwest Kansas. Each plant is really an artesian well reaching down to moisture, sometimes as far as thirty feet. It is a perennial plant and requires little attention after once thoroughly established. It grows rank and matures early, and where is there a more beautiful sight, or a more fragrant perfume than a field of alfalfa, just ready for the mower? Alfalfa may be cut three or four times in a season, and will produce on an average of four tons per acre, an-

nually. It is worth \$2.50 per ton, above the cost of harvesting and stacking, or a net income, of say \$10.00 per acre, rain or shine. From these figures, we can readily see that it is no iridescent dream to value well-seeded, low-bottom alfalfa land at from \$50.00 to \$100.00 per acre. It pays a good rate of interest after the taxes have been paid, on these figures. In addition to its value for hay, it furnishes the best of pasture for hogs in the summer, and they relish and thrive on the hay in winter. Alfalfa seed at this writing is selling at \$5.00 per bushel, and our farmers have sold hundreds of bushels this season. At first only very low

land along the streams was used for alfalfa, but by degrees the second bottoms were successfully seeded, and now the higher lands are being used in some cases. We know of alfalfa sown ten years ago, 100 feet from water, that is growing to-day, and has provided good hog pasture all of this time, but the hay crop is light, and does not compare with the low lands. In time, however, every farmer be he on the creek, or on the highest divide, will have his alfalfa fields. Those living on the high divide, in many cases, have erected wind mills and made an artificial lake near by, and from this lake a garden is irrigated; small fruit is raised in abundance, and in a great many cases a good orchard is growing.

The best of never failing water underlies our entire country, and this inexpensive means of bringing it to the surface, by the use of windmills, has made it possible for every family, no matter where they are located, to raise a good garden for home use.

We once owned a very rough farm, with a big draw running through it, and we considered the value of the land very small, and sold it accordingly to a one-armed farmer from Illinois. He had a little money, after making the first payment on his farm, which enabled him to seed the supposed valueless draw to alfalfa, and to also invest in a few hogs as a starter. This occurred seven years ago. To-day the farm is paid for, and the farmer during the past year has marketed \$6,623.00 worth of porkers and has 350 head of hogs left. Truly the hog has been correctly named, the "Mortgage Lifter." This successful friend of ours is a single man, and his address may be had on application.

Alfalfa can be grown in most parts of the State, and great gains in area are reported for the past year. Of the 84 counties reporting gains, we are pleased to note that the following in northwest Kansas are especially mentioned: Jewell, 11,982 acres, or 54 per cent; Smith, 7,052 acres, or 93 per cent; Phillips, 3,979 acres, or 43 per cent; Norton, 4,950 acres, or 34 per cent; Decatur, 4,250 acres, or 70 per cent.

Our population is gradually increasing and is composed of a happy and contented people. The merchants of the towns are prosperous and occupy their own buildings, which are in most cases free of encumbrance. Our entire people are slowly, but surely, making financial progress, while the moral and religious development is not being neglected. The future is bright. The ripe experience of twenty years' residence has demonstrated that there is room for all, and those most successful have decided that cattle and agriculture must go hand in hand, applying practical methods, frugal habits, and honest attention to business.

**Growing Beef on High-Priced Land.**  
E. A. BURNETT, NEBRASKA EXPERIMENT STATION.

Growing beef or keeping breeding stock on the farm throughout the year involves a change of methods on those farms where cattle are now kept only in the feed-lot during the winter months to consume the crops of the previous year. It requires more meadow and pasture land, smaller, better tilled areas of corn, better care of all straw and coarse forage, the introduction of the cornbinder and shredder where stalkfields have previously been fed off by cattle, the better fencing of land, and an adequate water supply. Good blood is also a paramount necessity. Well bred animals respond to feed. They have inherited a habit of laying on flesh when well fed. These conditions come only with intensive methods—no other methods have any place on high-priced land.

The great demand on the farms all over the country is for more grass. This idea was once considered erroneous, and with increasing values, grass lands were plowed and planted to corn. The Mississippi valley lands were thought to be so rich that they would bear indefinite cropping, but forty years of corn growing has decreased the yield perceptibly. The new land produces better than the old. It has not had time to run out. A small crop on high-priced land gives no profit. Sentiment is now increasing in favor of laying land down to grass thereby increasing its supply of humus and water-holding capacity in order to increase its producing and rent-paying power. Grass rests the land, fills it with root fibers, increases the available nitrogen, helps it to withstand extremes of wet and dry weather by making it more porous and, when again put into the rotation, enriched and fructified, it pays rental on an increased



**How to Grow Fat Cattle from Stringy Calves**

Where Dr. Hess' Stock Food is fed to delicate, stringy calves, they will be found in the heavy-weight class at shipping time. For indigestion, flatulence, diarrhoea—or any other incident disorder, Dr. Hess' Stock Food is the best remedy. It not only corrects all disorders, but establishes a high standard of health, giving flesh and rapid, sturdy growth. Dr. Hess' Stock Food is both a frame and flesh builder. It compels the conversion of food into fat and solid flesh, by affording appetite and means of perfect digestion and thorough assimilation. Dr. Hess' Stock Food rapidly forces a yearling; gives greater milking capacity to a cow; gives great vigor to bulls; keeps market cattle up to their feed to the last day.

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is a scientific compound for horses, cattle, hogs and sheep; endorsed by medical and veterinary colleges and prescribed by leading veterinarians everywhere. If the medical and veterinary colleges know of nothing better, it must be good. Dr. Hess is a graduate of both; no unprofessional manufacturer can equal his products. In every package of Dr. Hess' Stock Food is a little yellow card entitling the purchaser to free prescription for his stock by Dr. Hess. Dr. Hess' Great Stock Book on diseases of animals and poultry, the only complete treatise for popular use, consulted and recommended by prominent veterinarians, will be sent free, postpaid, if you write what stock you have; what stock food you have used; and mention this paper. For this information you will also be entitled to the following: During February Dr. Hess will send prescriptions and letters of advice FREE to any reader of this paper who has an ailing animal and who will send him description of symptoms and conditions. You must write before March 1st. If you have a sick or injured animal, write now. It may save you hundreds of dollars.

Dr. Hess' Stock Food is sold on a written guarantee, in 100 pound sacks, \$5.00; smaller packages at a slight advance. Fed in a small dose.

We also make Dr. Hess' Poultry Pan-a-c-a, Dr. Hess' Healing Powder and Instant Louse Killer. Address

**DR. HESS & CLARK, Ashland, Ohio.**

valuation or greater profits on its former value. If, while thus being enriched, it can be made to pay a reasonable revenue by producing baby-beef, the farmer is certainly the gainer thereby.

The producer of economical beef can never get away from grass. If land is high-priced it must produce a larger tonnage or make more beef to the acre. If pasturing land six months does not pay, we must learn how to pasture eight months. We have produced too little beef by grazing too many animals per acre. If growing three-cent beef on grass does not pay, we must learn how to grow beef worth five and six cents per pound.

Where heavy steers are purchased to put in the feed-lot, there is a great waste of forage in the stalk-fields. This waste must be entirely cut off. The corn-binder and the shredder must come in to save the corn-stover which is now largely wasted. It is not too much to say that the binder and the shredder would increase the value of the corn-fodder in Kansas and Nebraska six-fold above its present value. As from one-third to two-fifths of the value of the crop is in the stalks, when harvested in the most approved manner, it is easy to estimate how great is the loss on a corn crop of 225,000,000 bushels. Figuring the stalks as two-fifths of the crop, their nutrient value would be two-thirds of 225,000,000 or equivalent to 150,000,000 bushels of corn. I do not know how many acres of these stalks are left standing in the field, but assuming that not more than one-third are cut and that five-sixths of the value is lost where stalk-fields are pastured, we have a net loss the equivalent in feeding value of 82,000,000 bushels of corn in the single State of Kansas in an ordinary corn year.

With grass, forage, and grains, and the waste products of the farm to be consumed it is important that the cattle kept on the farm shall be of such a quality as to make good gains, mature early and produce a high quality of beef. The scrub must give place on high-priced land to the Angus, the Hereford, the Shorthorn and the other beef breeds which can be grown and finished for the market in from eighteen to twenty-four months and be sold at the top of the market. If inferior cattle should make equal gains for the food consumed they still produce an inferior grade of carcass which is worth from 10 to 25 per cent less than the well bred and well grown steer.

The question is being raised whether we can afford to keep a cow the entire year to raise a calf. If so, the calf must have breeding and quality. He must be a rent-payer. Moreover, the mother must be a scavenger, she must live on cheap foods. To be a scavenger does not mean starvation. These foods must be nutritious, cut early, and preserved from the weather, but coarser foods than the calf will use to make baby-beef.

There is economy in keeping breeding stock on the farm. They consume the coarse products. The straw and the corn fodder need to be picked up. Some of the hay is not of the best quality. There is land to be enriched by pasturing, so that always on the farm a certain number of breeding cows can be kept. Perhaps ten to fifteen per quarter section can be maintained at a very low cost, even below the cost of purchasing a good calf.

**HOW SHALL WE HANDLE THE "BEEF STEER**

And his baby-sister" to make them rent payers? If the breeding herd act as scavengers, the steer must be forced to his best growth on foods of good quality. The farmer on \$100-land has no place for a steer after he is twenty-four months old. Probably most of these steers will drop in February, March or April. The cows take less feed if dry in winter. They are better scavengers. They give more milk for the calf in summer. After weaning time the calf will be pushed along, perhaps fed some before. He will be grown through his first winter on alfalfa and a liberal ration of corn or mixed grains and in summer fed on grass for the Christmas market. A March calf will thus have twenty months in which to prepare for the block. He should weigh approximately 1,200 pounds and sell at six cents per pound on an average market. To the careful stockman the production of beef in this manner is not burdened with many intricate details. My own plan would be to use good grade cows with considerable Shorthorn blood, and preferably use Hereford or Angus bulls as the steers would probably mature earlier and at twenty months would be riper than when produced largely with shorthorn blood. The Shorthorn dam is an advantage as she is a good suckler and will raise a larger, stronger calf in consequence. This calf should learn to eat grain before he is fully weaned and should, if possible, go onto a fresh pasture at weaning time—an alfalfa meadow with grass about knee high to the calf.

In baby-beef the first winter is of great importance, not a day should be lost. At least one-half of the ration should be concentrates. With alfalfa for roughness the grain ration is easily grown on the farm. Corn, Kaffir-corn, and for the sake of variety I believe some oats or bran should be fed. This year wheat shorts are very cheap with us in Nebraska. They could economically be mixed with three-quarters corn to give variety. I should not full feed these steers until they go on pasture. An early blue-grass or brome-grass pasture is very desirable in making baby-beef. You can get onto it early and get on full feed sooner. Orchard-grass and meadow-fescue make good pastures in Nebraska, with a little alfalfa mixed in. Sow four pounds of alfalfa to the acre with grasses for pasture. Soaked

corn or corn-chop makes a good ration on grass. I believe in adding ten per cent oil-cake or cottonseed meal during the last one hundred days of the feeding period.

This forcing process has some disadvantages, viz. it requires that growth be made upon concentrated and high-priced feed which might be made upon grass alone by giving more time before the period of heavy grain feeding begins, but it has some distinctive advantages. This process permits us to make beef on young animals which always costs less per pound than on mature steers. In my own experience I have fed steers continuously upon a grain ration and marketed them at thirty months where only 650 pounds of grain was required for 100 pounds of grain. Many experiments with mature steers show a cost of 1,000 to 1,400 pounds of grain for each 100 pounds of grain produced, but they have the advantage of a much shorter feeding period, and depend for the profit mainly on the increase in value of the original weight.

**HAND FEEDING.**

The skim-milk from a hand-separator supplemented by a grain-ration will raise nearly as good a calf. I imagine I hear this statement questioned and I admit that here is where the skill of the farmer comes in. If he does not know how to feed a calf to get the best results he must learn. Warm sweet milk, a little corn, Kaffir-corn or whole oats. A little dried blood in case of a tendency to scour, alfalfa and prairie hay, sunlight and fresh air. A bond of sympathy between the calf and the feeder which enables the latter to anticipate the wants of the calf and provide them. If he does not show the bloom of a suckler he will take it on before he goes to the block. Many calves which have been grown for beef by the hand-feeding process have developed form and finish which fill all the demands of the market. The champion shorthorn steer at the International, 1902, was a hand-fed calf.

How shall milking cows be bred to produce calves with early maturity and beef quality? In just the same way which was before recommended, except that, if necessary more pains will be taken to use compact early maturing, thick fleshed sires. Both steers and heifers will be sent to the block. A friend of mine is now practicing the following method: A herd of good milking Shorthorn cows is being bred to an Angus bull of the type mentioned, except a few of the largest milkers which are being bred to a Holstein Fresian bull. The calves are transferred to the poorer milking cows, two calves suckling each cow. One-half of the cows are milked, and butter made from them. The Shorthorn Angus calves are of high beef quality. The Holstein—Shorthorn heifers are expected to make most excellent cows

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**SHORTHORN CATTLE**

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SIXTY-SEVEN HEAD, besides some young Calves at foot, 52 Cows and Heifers and 15 Bulls. This herd is in the best possible breeding condition and is noted for the great size, substance, and quality of the cattle comprising it. In breeding they are straight Cruickshank and Cruickshank-topped Rose of Sharon, Matilda, Flora, etc. Send for Catalogue to GEO. F. KELLERMAN, Mound City, Kans. Auctioneers—Cols Woods, Sparks and Harriman.

and the Angus bull will cover up the Holstein makings in their progeny. The Holstein-Shorthorn bull calf leaves something to be desired so far as quality is concerned. This process of raising steers from a milking herd raises a problem not presented in the beef herd. The cow can not act largely as a scavenger. The steer must be the scavenger without being starved or greatly stunted in growth. He must eat the rough feed. His grain ration the first winter will be reduced. Instead of receiving one-half of his ration in grain he will not receive more than one-fourth grain. The summer he is one year old he will live on pasture and forage crops only. He will not make Christmas beef that year, but will eat up the coarse feed on the farm and be summer fed as a 2-year-old, or carried over and fed the following winter, reaching the market at about thirty-six months. The strong factor in the production of these steers is that they have been grown on grass and coarse foods with a short finishing period.

OUR METHODS OF FEEDING.

Must be studied. High-priced land demands high-priced products unless you can greatly increase the yield. Thirty-cent corn can not be fed by the same wasteful methods which we practiced when it was worth ten cents. The amount of food necessary to produce one hundred pounds of gain varies greatly under different conditions. As much as 37 per cent of the feed was saved when soy-beans are fed with corn to hogs over feeding corn alone. In other instances 28 per cent of the feed was saved by feeding a balanced ration to steers, over feeding corn and corn-stover. All this has been done in Kansas—where people know how. It took brains to find out. Then why not balance the ration? The great bugbear has been, the cost. Protein is high-priced. But the farmers of Kansas and Nebraska have grown the protein and now it is cheap. Alfalfa hay at \$5.00 per ton makes protein so cheap that we have no excuse for stinting the calf on blood and body builders. He takes it too much to heart. It does not pay.

Five tons of alfalfa hay will balance the ration for five tons of corn in making baby-beef. It will do more with mature steers. With 25 per cent of the farm land in alfalfa and soy-beans there will be no lack of protein to feed a dairy-herd and raise baby-beef. The work of the Kansas Experiment Station in bringing out the value of the soy-bean has been worth more to the farmers of the State than the Kansas Agricultural College ever cost.

When grown the steer must be marketed. If he is fat and a good beast he will top the market. But the market may be bad. The feeder of baby-beef has an advantage. Baby-beef may be kept on for some months beyond the time we had expected to sell. It will continue to gain and nearly or quite pay for the feed. In the meantime the market may mend and you sell at a profit. With heavy steers you do not have so much leeway. They get ripe and must go. The purchaser of cattle for the feed-lot must be a good buyer or he gets sold. The man who raises his cattle gets all the profits and does not have the risk.

Kansas and Nebraska possess natural advantages for feeding. They have a dry climate and genial skies. A dry feed-yard has a great advantage over a yard knee-deep in mud, or a steaming, filthy stable. A dry bed is no fiction in the profits of steer feeding. The steer swells most when lying down. He then puts fat on his ribs. The man

who grows baby-beef must be skillful. He is dealing with young, tender things; he needs a sympathetic knowledge of the animal, an intuition as to its needs.

The production of baby-beef is largely independent of the business of the large feeder who buys mature cattle, and will become more and more so as the supply of range cattle decreases. It can be carried on by the small farmer who makes a practice of feeding what he grows and growing what he feeds. Under this system the land grows richer and its rent paying power increases with its increased productivity. A home industry is developed upon a sound economic basis. The production of a superior product is a great incentive to develop a superior farmer. We know that baby-beef is the most economical from the standpoint of per cent of beef produced to food consumed. We know that it possesses the highest quality with the smallest per cent of waste. It must, therefore, be most economical. To produce it requires the greatest skill. It must eventually pay the greatest profit.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color, and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kansas.

Contagious Abortion.—In issue of December 25, I see reply to my inquiry in regard to the treatment of cows affected with contagious abortion. Will you please give full directions for treatment where affected cow is not separated from the healthy ones?  
 L. H. HASCALL.  
 Sharon Springs, Wallace County.

When a case of abortion has occurred the fetal membranes must be removed by the hand without delay and, together with the fetus and all straw and manure in stall should be burned and the stall and drains should be washed with a solution of five ounces of sulphate of copper in one gallon of boiling water. Repeat this washing every three days for a while and then once a week. Then the womb should be washed out with one dram of corrosive sublimate, one ounce of alcohol, three ounces of glycerine, and shake this up in one gallon of boiling water and when cool so that you can easily bear your hand in it, inject it to the bottom of the womb, using a rubber tube about six feet long and a large funnel in the elevated end. Repeat this daily for a week.

In the care of the other cows of the herd one injection of the same kind should be made into the vagina. Just pass the tube in and not the hand and afterwards they should have their external parts and tails washed with this solution daily.

If the bull has served any of the aborted cows he should be washed out with the same solution a few times. Great care should be taken to guard against a bull or cows from an aborting herd. Streams even may be suspected, and workmen that have attended on such a herd should be made to disinfect even their clothes.

Abortion.—Seeing the inquiry of L. H. Hascall, of Sharon Springs, Wal-

lace County, on page 1263 in No. 52, I would ask that your veterinarian give the treatment of contagious abortion complete as I have every reason to believe that two of my neighbors have it on their places and I am living between their farms although not adjoining. I am informed that it is contagious and would like to know if there is any preventive. J. B. AVERY.  
 Clifton, Washington County.

Answer.—See Contagious Abortion.

I have a colt that has a singular habit. He will take a cob in his mouth and put it on the fence or any object up off the ground and suck it, and stand that way a long time. I do not know how long he has been at this, but the men on the farm say since he was brought in from the pasture in October. Please tell me how to cure him.  
 A. M. MASON.  
 Pittsburg, Crawford County.

Answer.—Give nux vomica powdered, 2 ounces, bicarbonate of soda, 4 ounces. Mix and divide into twenty powders, and give one twice a day in feed dry. Feed oats and bran with good hay.

Diseased Jack.—I have a Maltese jack, 6 months old, which seems to have a humor in his blood. He broke out with a rash about a month ago, which causes great itching, causing him to rub and bite, making sores. He has two sores, one on each side of his sheath the size of a man's hand. I have been using a salve made out of hog lard, sulphur and carbolic acid, and have been feeding branshorts and corn-chop and good prairie-hay, but his appetite is poor and he does not thrive. Can you tell me what to do for him?  
 J. F. HILL.

Wallace, Wallace County.

Answer.—Give Fowler's solution, one-half a teaspoonful twice a day in a half a teacupful of water as a drench. Wash him all over with Zenoleum, one part to thirty of warm water, once a week. Pick a warm day and cover up well with blanket in a good, warm barn or in the sun after bathing. Feed oats and bran and alfalfa, and see if there are any chicken mites around where he is.

Open Synovial Bursal.—About September 1, my 4½-year-old colt had a bunch come outside of the left front hock-joint. At first the bunch was of a soft, fluffy nature, and in about a week it broke, discharging straw-colored pus. I used a salve excellent for fistula and old sores. This caused the discharge to become thicker, and it would flow freely and then stop for a few days, the opening not allowing it to drain empty. In November, I used a 50-cent bottle of Leonard's Mexican Liniment, then nearly a bottle of Sloan's Liniment. These lessened the discharge and caused the bunch to go down some; is now about three inches across, with a depression about the opening which discharges a high-colored and rather thin matter. Please give me advice.  
 T. W. REEVES.  
 Newton, Harvey County.

Answer.—Inject with a small syringe compound tincture of benzoin and soak a small piece of absorbent cotton with the same and place it over the opening, then and over that a bolt of cotton around the entire joint and above six inches and bandage tight, using a muslin bandage six inches wide and eighteen feet long, repeat it once a day, and keep it quiet.

Swelled Leg.—I have a large grey horse, 8 years old, that has a bunch on the outside of her ankle—has been there about four months. It seems to be loose from the bone, and resembles

a callous. He is not lame, but there seems to be inflammation in it. Once last fall it gathered and I lanced it, but there was not much discharge. What shall I do for it?  
 W. H. SALES.

Simpson, Mitchell County.  
 Answer.—Paint it with tincture of iodine every three days for three weeks then hand rub once a day with camphorphenique and olive oil, half and half.

Pink-eye—Rheumatism.—I have a calf that has the pink-eye. What would you advise for it? Also a pig that seems to have the rheumatism; it can hardly bear to touch its hind feet to the ground when it first gets up; eats very well and grows some; is about 7 months old. There seems to be little knots below the knee on the hind legs.  
 J. H. PEDEV.

Asherville, Mitchell County.  
 Answer.—1st. Take boracic acid and calomel, each one dram, mix and blow one-half in each eye at once. 2d. Give iodide of potassium, 4 drams, salicylate of soda, 5 drams, water, 8 ounces. Mix, and give a dessertspoonful twice a day in feed.

Enteritis.—A short time ago I had a fine, thrifty, fat sow weighing about 225 pounds. She grew sick, and the first I saw wrong she was passing nothing but blood, and was so weak she could hardly stand, and would squeal when she moved. I turned her out of the pen, and in about three days she seemed to be all right. I gave her no medicine. In about two weeks after I had a barrow, she got sick and died next day. I examined and found nothing in the small intestines, the large intestines seemed to be full of blood, nothing in the stomach, and the liver was rotten. I had been feeding Kafir-corn in the head, and kept corn by her but she did not eat much of it. I stopped feeding Kafir-corn and fed wheat, corn and alfalfa hay and have had no trouble since. I have fed Kafir-corn for a number of years with good results, but think I nearly always fed some sour-milk or swill with it. This fall I had only pure water. I would like to know what to do in a similar case in the future.  
 A. COCHRAN.  
 Windom, McPherson County.

Answer.—Give a tablespoonful of paregoric in a teacupful of castor oil. It was probably caused by too much Kafir-corn-seed alone.

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THE MARKETS.

Kansas City Live Stock and Grain Markets.

Kansas City, February 2, 1903. Cattle-shippers found nothing particularly encouraging in the local cattle market last week. Slaughterers seemed to regret their generosity of the preceding seven days and attempted to take off enough to make up for the advance put on them. Trade opened slow and continued so all week. At Chicago medium beefs touched the low point of the year. Extra choice beefs sold here for \$5.25@5.60. The latter price was the top of the week. It was secured by D. O. Keede, of Lone Elm, Kans., who marketed a string of 1,432-pound, well-finished beefs on Tuesday. Light-weight beefs, stock weighing 1,050 to 1,150 pounds, held up fairly well on account of the strong competition between feeder buyers and packers. In spite of the low prices of fat cattle countrymen are freely offering \$4@4.25 for the best feeding steers and this is compelling packers to keep in line on the lighter weight butcher stock. Feeding cattle are relatively higher now than they were a year ago, and the demand seems to be increasing despite the continued big runs of fat cattle.

Cattle receipts for the week amounted to 34,800 head, an increase of about 30 per cent from a year ago.

Hogs sold up to the sensational mark of \$6.97 1/2 during the week, but try as they might, sellers could not squeeze out the other 2 1/2 c. The top price was reached on Thursday. Hogs advanced another 10@15c last week and closed right near the top notch of the season. Some traders think the \$7 mark will be reached here during the present week. All the markets are getting meager supplies and packers are forced to loosen up in making their purchases. Pigs were fair sale last week at \$6@6.25 for the lighter weights. Receipts locally for the month of January foot up only for 100,800 head, a loss of almost 50 per cent from the same period last year. Other markets showed big decreases, but not proportionately so heavy as Kansas City.

As with hogs, the sheep market touched the high point of the year during the week. Receipts were extremely light, total arrivals amounting to only 10,600 head. Packers were so anxious for supplies they gave prices 10@25c above Chicago for most of the mutton stock. Ewes sold here at a range of \$4@4.55 against \$4@4.25 at the lakeside. The Abbott Feeding Co., of Las Animas, Col., secured \$4.55 for a band of ewes, the highest point of the season. G. G. Clark, of Attica, Kans., topped the winter's wether market with a string of Mexicans at \$4.82 1/2. Lambs sold freely at \$5.75@6 and it did not take extra choice ones to bring the latter figure. Big supplies here the present week will see values get more in line with Chicago but no serious break is anticipated.

Horse receipts showed a material reduction amounting to 1,000 head. The supply the preceding week was right at 2,600 head. The horse trade was about the meanest of the winter while the mule market was about the best of the season. Horses with weight and fair quality brought \$150@175 but the bulk of the plain and medium weight workers sold for \$75@100. Mules are bringing as good prices as at any time this winter, particularly the big kinds, 15 hands and up.

Eggs are now selling on a lower basis, best candled stock bringing 18@18 1/2 c; poultry is holding its own with the demand equal to the supply. Hens are worth 9 1/2 c; springs 10 1/2 c; roosters 20@25c; turkey hens 13 1/2 c; gobblers 12 1/2 c; ducks 11c and geese 8c. Wild ducks are quoted at \$2@4 per dozen; rabbits 50@75c per dozen.

The hay market held steady for good kinds but inferior prairie is poor sale. Timothy is worth \$11@13.50; clover \$10@12; alfalfa \$8@12; prairie \$4@6. Wheat at this point lost 1/2 @1c during the week in sympathy with declines at other points. Corn also recorded a loss and oats followed the lead of the bigger cereals. Cash wheat is quoted as follows: No. 2, 66@70c; No. 4, 58@65c; No. 2 corn, 39@41c; No. 4, 39@40; No. 2 oats, 35 1/2 @36 1/2 c; No. 4, 34@35c. H. A. POWELL.

South St. Joseph Live Stock Markets.

South St. Joseph, Mo., February 2, 1903. It was a case of too many cattle in the East, or not equally enough distributed, as the trade there ruled dull all prices were lower the greater part of the week, which caused values here to recede 10@15c in sympathy. The demand was good right along and not near enough good grades are coming to supply the wants. Cows and heifers were in good request at generally steady values for medium and 15@25c lower prices for medium to good grades. Stock cattle moved freely to the country and regular dealers bought readily, which resulted in values advancing 15@20c.

The trend of hog prices was higher the greater part of the week and the demand was vigorous from all the buyers, although local prices ruled the highest on the map right along. The general quality continues good and weights of strong average. Prices to-day range from \$6.65 @6.90 with the bulk selling at \$6.70@6.85.

Both sheep and lambs were in good request on each day of last week, and with a more equal division of receipts prices would have been well maintained. The market East had too heavy supplies and resulted in lower prices, which in turn had a bearish influence of the market West. The market here showed a loss of 10@15c. During the week Colorado lambs sold at \$6.25, Colorado yearlings, \$5.25; native wethers, \$5.15; and Colorado ewes, \$4.50.

Lawrence Seed Markets.

Lawrence, Kans., February 2, 1903. We give you today's buying prices in our market. Outside prices are for best grade: Red clover.....\$9.00@11.00 Alfalfa.....8.00@11.00 Timothy.....8.00@ 3.25 English blue-grass.....2.50@ 3.50 Millet......75@ 1.00 Cane-seed......60@ .75 Kafir-corn......50@ .52 F. BARTEDES & CO.

It requires many years to grow a great oak. You can raise a gourd in three months. The KANSAS FARMER is forty years old. Subscribe now.

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.

CATTLE.

FOR SALE—Extra good, high-grade Hereford bull, 19 months old. E. S. Arnold, R. R. 1, North Topeka, Kans.

REGISTERED Hereford bulls, cows, and heifers for sale. Come and see them. Will make prices right. H. B. Clark, Geneseo, Kans.

FOR SALE—Fifty head of unregistered, full-blooded Hereford heifer calves, we marked, weight about 450 to 500; will make someone a good foundation herd. If sold soon will take \$22 per head. Just one car-load. My farm is also for sale. Come and see the Hereford calves. Farm 7 mi. S. northwest of town. Lewis Reep, Yates Center, Kans.

FOR SALE—Aberdeen-Ankus cattle, to lose out; 3 young cows, each with an 8-month calf at side. Calves are 2 heifers and a bull. All are recorded. Price \$50. Write for particulars. I. R. Moore, Valley Center, Kans.

FOR SALE—One dark red registered Shorthorn bull. Brookover Bros., Eureka, Kans.

FOR SALE—10 head of registered Hereford bulls, 6 to 20 months old, good individuals, and in good condition. Visitors met at trains if notified. Farm 20 miles southwest of Wichita. A. Johnson, R. F. D. 2, Clearwater, Kans.

FOR SALE—A few choice young Angus bulls at right prices. Address J. E. Long, Rock Creek, Kas.

FOR SALE—Red Polled cattle. I have been breeding these cattle seven years. No better anywhere. Two ve bulls to select from. D. F. Van Buskirk, Blue Mound, Kans.

FOR SALE—A choice herd of registered Holsteins. Six heifers coming 3 years old, and one yearling heifer from first prize cow. A 2 year old first prize bull from M. E. Moore's unbeaten 1901 show herd. E. W. Melville, Eudora, Kans.

FOR SALE—My herd bull, Baron Knight 124946, 4 years old, dark red, weight 2,200 pounds, got by Gallant Knight 124468; also three Scotch-topped bulls, 14 months old, and a few cows with calves by side. J. P. Engel, Alden, Kans.

FOR SALE—A few choice Shorthorn heifers and young bulls. M. C. Hemenway, Hope, Kans.

FOR SALE—Ten young Hereford bulls from the Evergreen Farm herd, headed by Lee 121232. Address Pearl I. Gill, Great Bend, Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

FIVE HEREFORD BULLS FOR SALE—Never used in a herd, they are in fine fix, at a bargain for cowmen. O. L. Thistler, Chapman, Kans.

FOR SALE—Six good Shorthorn bulls, four of them straight Crutchbanks; prices reasonable; now is your chance to get a good individual. H. W. McAfee, Topeka, Kans.

HERD BULL FOR SALE—After February 1, will let my double standard Polled Durham bull go; bred in Illinois, good individual, good doer; also some young Shorthorn bulls for sale. G. K. Smith, Lincoln, Kans.

SWINE.

FOR SALE—Large English Berkshires—boars and gilts, registered. A. M. Ross, Cedarvale, Kans.

BERKSHIRES—Two large boars of April farrow, excellent quality and finish. Ready for immediate service. Address Thomas Page, Station "A" Topeka, Kans.

WASHINGTON LAD—The greatest and best Poland-China I have ever owned. Some choice gilts bred by him now safe in pig; for sale, price \$20 to \$25 each, bred to peer of this great sire. Spring and summer males all sold. M. F. Tatman, Kaw Valley Herd Poland-Chinas, Roseville, Kans.

FOR SALE—Berkshire boars, by son of Imported Commander and King Blossom; also bred gilts. O. P. Updegraff, Topeka, Kans.

SEEDS AND PLANTS.

HORSERADISH ROOTS—To plant, 50 cents for 100 or \$4.50 for 1,000; cash. Try them. Profits big. J. C. Steinhauer Pittsburg, Kans.

200,000 Johnson's Early and August Luther strawberry plants for sale. Write me what you want and see what I can do for you. E. M. Wheeler, Jefferson, Kans.

WANTED—Sweet corn wanted. Will pay a good price. Correspond with us. P. Barteldes & Co., Lawrence, Kans.

200,000 FRUIT TREES! Wholesale prices; new catalogue. Baldwin, Nurserman, Seneca, Kans.

STRAWBERRY PLANTS—500,000 strong, thoroughly cultivated, many leading varieties. Also horse radish roots for planting. Ask for prices. J. Bales, R. R. 2, Lawrence, Kans.

MISCELLANEOUS.

CORNS—The Genuine Cactus Corn Callous Cure will cure corns, warts, bunions, and callous without pain. Sent to any address on receipt of 25 cents coin or stamps. Address Cactus Remedy Co., 1115 Grand Ave., Kansas City, Mo.

WANTED—Some one to furnish money to buy cattle. I have plenty of feed on grass land. Address W. J. Johnston, box 2, Bluff City, Kans.

WANTED—A responsible position on a farm. Or would rent a suitable place; male rfd. Dairy graduate. Address Box 122, Carondeal, Kans.

WANTED—Man and wife on ranch to live of themselves; also single man; would like parties that have worked on ranches or farms, and that know how to do farm work. In reply to this advertisement, please state your age when writing. Address A. C. Greer, Valdo, Kans.

MILITARY LAND WARRANTS—\$5.00 paid persons telling who has one, whether I buy or not. R. K. Kelly, Kansas City, Mo.

FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S. Emporia, Kans.

PATENTS.

J. A. ROSEN, Patent Attorney, 18 Kansas Avenue, Topeka, Kansas.

HORSES AND MULES.

FOR SALE—Bay stallion, Prince No. ar 35877, foaled 1900, 15 1/2 hands, sire Novar 26484, by Norval, 2:14 1/2, by Electioneer; dam by Dams, son of Jerome, Eddy, 2:16 1/2, second dam by Electioneer, sire of Joe Election, 2:01 3/4. This colt is a great prospect for the stud or track, as the blood lines and individuality are of the best. The Wilkes-Electioneer cross is the acme of fashion up-to-date. He is well broken to harness, gentle and kind, with true trotting action, and plenty of speed. Will sell cheap as I have no use for a stallion. Also a yearling brother. For further particulars and price address W. J. Flintom, Journal office, Lawrence, Kans.

FOR SALE—A high-grade black Percheron stallion, coming 2 years old this spring. This colt is large and smooth and has good bone, weighs nearly 1,500 pounds. R. E. Casad, Ocheltree, Kans.

FOR SALE OR TRADE—For a good black Percheron stallion, a Cleveland Bay coach stallion, mare, filley, and stud colt, all registered. S. S. Morine, McPherson, Kans.

FOR SALE—One 3-year-old good, coal black, high-grade Belgium stallion, heavy bone and good style, weight about 1,400 pounds. Write the owner, Tom R. Deuchfield, Eureka, Kans.

FOR SALE—Two brown Percherons, one black imported shire, one Cleveland Bay; cheap for cash. Lewis J. Cox, Concordia, Kans.

FOR SALE—A 4-year-old Belgium draft stallion bright-bay, will make an 1800-pound horse when in good fix, won second prize at Ottawa 1902. His sire and dam were imported and recorded. He has made one season, is of a good disposition and easily handled. For full particulars address Chris Bearman, R. R. No. 3, Ottawa, Kans.

FOR SALE—Son of Onward, 2:25 1/4—Theorist, bay stallion No. 19251, 16 1/2 hands 1350 pound, sure-foot-getter and sire of high-class carriage horses; sold for no fault; have two bred alike, can't use but one. Would trade for good heavy draft stallion. L. A. Lhuillier, Pleasanton Stock Farm, Pleasanton, Kans.

STALLION FOR SALE—Black, 5 years, standard-bred and registered, 1500 lb, sire, sound, gentle, city-broken sire of double, sure foot getter. Traces to Hambletonian 10, only three degrees removed, through both sire and dam. Untrained but speedy. A rare chance to get a choice stallion that will pay for himself the first season. W. A. McArthur, Topeka, Kans.

FOR SALE—One Percheron stallion, 3 years old; one Hambletonian stallion, 4 years old. Both registered. Very cheap. Address G. A. Stites, Hope, Kans.

FOR SALE—One 4-year-old black jack, 16 hands, weight 1,200 pounds. Fine jennette jack. G. W. Barnes, Agency, Mo.

FOR SALE—Two registered Percheron stallions, 4 years old, weight 1950 pounds; won second prize at Hutchinson. C. Spohr, Rome, Kans.

FOR SALE OR TRADE—For young cattle, one Percheron stallion, sure foot-getter. J. W. Holinger, Cottonwood Falls, Kans.

FOR SALE OR TRADE—One imported French Coach Stallion, dark brown, weighs 1,400 pounds, good breeder; will trade for jack or road stallion. Can show colts from horse. H. J. Stevens, Wellington, Kans.

LEAVENWORTH CO. JACK FARM—34 head of jacks and jennets on hand. O. T. Corson, Potter, Kans.

FOR SALE—Seven jacks, three stallions. For further information call on or address F. W. Poos, Potter, Atchison County, Kansas. Barn three blocks north of depot.

FOR SALE OR TRADE—One of the largest and best Catlanian jacks in Kansas, black, with mealy points; 2 years old Oct. 30, 1901. Would prefer to turn him for registered English Red Polled cattle. Address L. Box 53, Sterling, Kans.

FOR SALE, CHEAP—One 3-year-old black jack, and red Shorthorn bulls and heifers; show stuff. George Manville, Dearborn, Mo.

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

FARMS AND RANCHES.

FREE 200 printed farm and ranch descriptions in 5 counties, 55 m. from K. C. Prices, maps, statistical book. Write G. Winders, Ottawa, Kans.

FOR SALE—My home quarter section in the rich wheat and corn belt of Harvey County, Kansas, suitable for grain or dairy, one mile from elevator, 65 acres in wheat, 70 acres grass, fenced and cross-fenced, good seven-room house with two cellars, fine barn—32 by 42, with granary for 3,000 bushels of wheat, carriage house, machine shed, corn and hog houses, windmill and pump with the best soft water, plenty of fruit. Never rented. Would prefer to sell with stock and tools. Liberal terms. Write me. W. L. Severance, Halstead, Harvey Co., Kans.

FOR SALE—A well improved stock and wheat farm of 460 acres, at \$7.50 per acre. Address J. D. Hayes, Colby, Kans.

FOR SALE—Kaw River bottom farms, \$50 to \$80 per acre. One farm \$25 to \$50 per acre. I also do an exchange business. R. B. Moore, 913 North Kansas Ave., Topeka, Kans.

320-ACRE FARM—with fair improvements, good orchard and water. Price \$4,500; in payments \$800 cash, balance at 6 per cent interest, possession any time. John G. Howard, Emporia, Kans.

FOR RENT OR SALE—Two sections of good pasture land, well watered and well fenced, six miles north of Ogallah, Frege County, Kans. Skimming station at Ogallah. For particulars address, W. J. Rogers, Clyde, Kans.

FOR SALE—Farms and ranches in central and western Kansas. We have some great bargains in western ranches. Write us. R. F. Meek, Hutchinson, Kans.

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WHITE Plymouth Rock eggs for hatching, from prize-winners, second prize cock. State show '03 at head of this year's breeding pen. Eggs, \$1 per sitting of 13. W. L. Bates, 1829 Park Ave., Topeka, Kans.

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FOR SALE—Thoroughbred C. I. Game and R. C. B. Leghorn cockerels, \$1 each. Eggs in season. Mrs. John Holzner, Bendena, Kans.

FOR SALE—Prize-winning Barred Plymouth Rock cockerels, sired by F. W. Hitchcock. D. A. Kramer, Washington, Kans.

The Stray List.

Week Ending January 22.

Cowley County, Geo. W. Sloan, Clerk. CATTLE—Taken up by J. C. Gardner, in Silver Creek tp., Nov. 22, 1902, one brindle cow, about 800 pounds, diamond on left hip; valued at \$18. Also one red steer, about 900 pounds, branded M on left hip; valued at \$30. Also one roan steer, about 900 pounds, both ears cropped; valued at \$30. Also one red steer, about 900 pounds; valued at \$30.

Montgomery County, S. McMurty, Clerk. STEER—Taken up by G. P. Dalley, in Caney tp. P. O. Havana, by one red steer, 1 year old, silt in right ear; valued at \$15.

Elk County, G. J. Sharp, Clerk. STEER—Taken up by E. H. Russell, in Liberty tp., one red steer, 2 years old, two hog-rings in right ear; valued at \$30.

Miami County, Geo. Osborne, Clerk. HOGS—Taken up by M. Wals, in East Valley tp., one black sow, left ear torn, right ear torn off, weight 140 pounds. Also three black and white spotted and four black pigs; valued at \$12.

Week Ending January 29.

Kingman County—W. R. Long, Clerk. HIRSEB—Taken up by Cory De Weese, in Rural tp., November 1, 1901, one red heifer, right ear off, weight 500 pounds, branded on left hip; valued at \$18.

Cloud County—E. J. Alexander, Clerk. STEER—Taken up by W. H. Wilkins, in Oakland tp., January 6, 1903, one red steer with horns, crop out of right ear; valued at \$15.

Coffey County—W. M. Palen, Clerk. MARE MULE—Taken up by A. E. Sherwood, in Hampden tp. (P. O. Burlington), September 16, 1902, one light bay mare mule, about 14 years old; valued at \$15.

Logan County—J. F. Light, Clerk. CATTLE—Taken up by James M. Brown, in Winona tp. (P. O. Winona), January 12, 1903. Two red and white cows, ears cropped, dehorned, one red and white cow, blotch brand on right hip; total value \$67.50. Three red and white heifers, 2 years old; total value \$35. One red and white heifer, 1 year old; valued at \$10. Three 1-year-old steers; valued at \$60.

Labette County—A. H. McCarty, Clerk. COLT—Taken up by Jacob Ode, in Labette tp. (P. O. Parsons R. F. D. 6), January 8, 1903, one red-roan pony colt (male); valued at \$35.

Week Ending February 5.

Jackson County—T. C. McConnell, Clerk. COW—Taken up by W. E. Douglass, in Garfield tp., one Western cow, black Jersey color, some white in face, branded H on right hip and 71 on left hip. Also taken up by same—one red steer, white spot in forehead, white under belly, tip of tail white, 8 years old, silt in both ears, may be holes torn out, has an old brand on left hip; not plain.

A Hereford Snap.

FOR SALE, QUICK, 20 yearling Hereford bulls and 50 bull and heifer calves. All out of dams of 15th cross by registered bulls. Practically pure-bred and a splendid lot in fine condition. Prices reasonable to early buyers.

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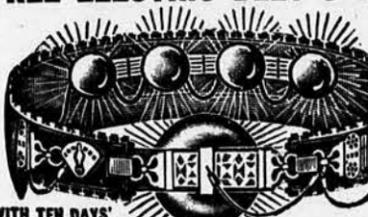
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FOR SALE—A fine lot of Black Langshan cockerels for sale. Some with score cards by Judge Rhoades. James Bottom, Onaga, Kans.

FOUR young litters high bred, pedigreed, Scotch Collie pups, for sale. Book your orders quick. Walnut Grove Farm, Emporia, Kans.

POULTRY FARM—Breeders of Light Brahmas, Plymouth Rocks and Partridge Cochins, took first second, and third on Light Brahmas; first, second, and third on Partridge Cochins at Fort Scott show. A few good cockerels for sale. Eggs in season. \$1.50 per 15. G. W. Shuman, Fort Scott, Kans. Rural Route No. 1.

FOR SALE—Pure bred B. P. Rock cockerels, \$1.50 to \$2. Mrs. Ada Ainsworth, Stillwell, Kans.

SIXTY MAMMOTH BRONZE TURKEYS—Two separate pens, headed by a 42 pound tom. Also Pekin ducks. Address Mrs. Fred Cowley, Columbus, Kans.

FOR SALE—Barred Plymouth Rock cockerels, \$1.25 each. J. A. Sawhill, Edgerton, Kansas.

DO YOU WANT LAYERS?—It's in the blood. Buy cockerels of my heavy laying strains of Black Minorcas, and Brown Leghorns, \$1.50 each. Also eggs for hatching, \$1.50 per 15. Satisfaction guaranteed. James C. Jones, Leavenworth, Kans.

FOR SALE—Mammoth Bronze turkeys, with large bone, fine shape and plumage; three pens not akin. Address Mrs. T. M. Fleming, Route No. 3, Fontana, Kans.

MRS. E. F. NEY—Breeder of WHITE WYANDOTTES, Bonner Springs, Kansas. Cockerels, \$1.00. Eggs in season.

COCKERELS—Indian Games and Black Langshans, farm-raised, price \$1 each, if taken soon. H. Baughman, Wynore, Neb.

For Sale: 150 Pure-Bred Light Brahmas

Best birds we have ever offered. Prices are right and our stock is just what you want. Write us just what you want and will quote best prices. F. W. DIXON, HOLTON, KANSAS.

SCOTCH TERRIERS—Finest bred in this country, sirs, Heather Prince, the champion of Scotland, and sirs of Nosegay Foxglove, out of the champion imported Romany Ringlet, best service at our kennels. G. W. BAILEY & BRO., Beattie, Kans.

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\$20 A WEEK Straight salary and expenses to men with rig to introduce our Poultry Mixture in country; year's contract; weekly pay. Address, with stamp, Wauwarch Mfg. Co., Box 1119, Springfield, Ill

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1889. 1903. EGGS—\$2.00 for 15. A few choice cockerels for sale yet. I can sell you pairs, trios, and pens, not akin They are of prize-winning stock. Buy stock and eggs of us and be a pleased customer, as all others have expressed themselves as such. Write for prices

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Buff Plymouth Rocks, Buff Wyandottes and Brown Leghorns. Fowls one dollar and up. Breeding pens mated. Stock scored by Judge Rhodes. Eggs one dollar per sitting.

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DUFF'S POULTRY Barred Plymouth Rocks, White Plymouth Rocks, Buff Cochins, Partridge Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Brown Leghorns, and Belgian Hares. First-class Standard Stock of Superior Quality. Stock For Sale. Eggs in Season. Write Your Wants. Circular Free. A. H. DUFF, Larned, Kans.

30 Days Free Trial The Royal Incubator is so good and works so well that we don't ask you to buy it before you try it. Entirely automatic certain results. May send you one on trial Catalogue free. ROYAL INCUBATOR COMPANY, Dep. 88, Des Moines, Ia.

Louden's Famous DOUBLE TREAD BARN DOOR HANGER runs on a T. rail flexibly connected to barn. Warranted to never jump the track. Has tempered steel roller bearings. Fits close to building, and will not bind or work hard when the door or sliding becomes warped. They are without doubt the "BEST ON EARTH." We also manufacture a complete line of Hay Tools and Hardware Specialties for use in field and barn. Write for Catalogue. Address Loudon Machinery Co., Dept. D, Fairfield, Iowa

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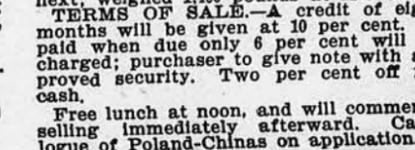
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Every appliance known to modern car building and railroading has been employed in the make-up of this service, including Café Observation Cars, under the management of Fred Harvey. Full information as to rates and all details of a trip via this new route will be cheerfully furnished, upon application, by any representative of the



MONEY

is easily made by any honest boy, girl, man, or woman selling our high-grade seeds. Immense possibilities; no cash till seeds are sold. For particulars, address L. P. Gunson & Co., Dept. J, Rochester, N Y

# STALLIONS.

IAMS' October, 1902, importation of black Percherons, Belgians, and Coachers was the largest ever made west of the Missouri River. His stallions of big size, quality, finish and extremely low prices are propositions that will make you his buyer. If you can pay cash or give bankable note, you will sure buy stallions of Iams. Only man in the United States that imported only black or bay stallions. He has just imported

## 63--STALLIONS--63

Shipped to New York by fast boat, then by Fargo Express, special train from New York to St. Paul, Nebraska. Iams' big barns are full of big, black, ton stallions. He is just finishing a new barn 36x100 feet. Iams' horses are the sensation of the town. Visitors through his barn say: "Never saw so many big black stallions together." "They are larger, bigger bone, more finish than ever before." "But Iams is progressive." "He buys them larger and better each year." "He makes prices that makes the people buy his horses." "Iams has a horse show every day, better than State fairs." He has on hand over

## 100-Black Percherons, Belgians and Coachers-100

2 to 6 years old, weight 1,600 to 2,500 lbs. More black Percherons, ten stallions, largest French horse show winners, more government approved and stamped stallions of any one importer in the West. Iams speaks French and German; needs no interpreter, no buyer, no salesman; no two to ten men as partners to share profits. His buyers get middlemen's profits and salaries. Iams buys direct from breeders. This with his twenty years' experience secures the best. All the above facts save his buyers \$500 to \$1,000 on a first-class stallion and you get a first-class horse, as only second rate stallions are peddled by sleek salesmen to be sold. Good ones sell themselves. It costs \$500 to \$800 to have a salesman form a company and sell a second rate stallion. Form your own company. Go direct to Iams' barns. He will sell you a better stallion for \$1,000 and \$1,200 than others are selling at \$2,000 and \$4,000. Iams pays horse's freight and his buyer's fare. Good guarantees. Barns in town. Don't be a clam. Write for an eye opener and finest horse catalogue on earth.

# FRANK IAMS,

St. Paul, Howard Co., Neb. On U. P. and B. & M. Rys.  
References: St. Paul State Bank, First State Bank, Citizens' National Bank.



## Spot Cash Talks.

Write S. A. SPRIGGS

WESTPHALIA, ANDERSON CO., KANS., and see what it will do if you want a Registered Percheron or Coacher or a big, black, heavy-boned Mammoth Jack or Jennet. All stock guaranteed as represented. P. S.—A few high-grade Stallions very cheap.



### COMBINATION SALE

## Percherons, Shorthorns, and Poland-Chinas.

J. W. & J. C. ROBISON, TOWANDA, KANSAS,

Will sell a draft of 60 head from their noted herds. Among the horses they will include most of their 1902 show herd, which won every first prize competed for at Missouri and Kansas State Fairs this year. Don't forget the date—February 3, 4, and 5, 1903, at Wichita, Kans. February 3, J. W. & J. C. Robison and Snyder Bros. sell 60 Percherons and Shire stallions and mares. February 4, J. W. & J. C. Robison, Snyder Bros., and G. D. Stratton, sell 60 Shorthorns. February 5, Snyder Bros. sell 60 Poland-Chinas.



## WILLEMORE STOCK FARM

IMPORTER AND BREEDER OF  
**German Hanoverian and Oldenburg Coach Horses**

In order to make room for stallions, will sell 80 mares from 1 to 3 years old, at a bargain. Telephone 292.  
Best Terms and Long Time Given Responsible Parties.  
Take Washington Park Car to the Farm. Wm. EATON; MOORE, Prop., SPRINGFIELD, ILL.

Stallions of all ages for sale. Both imported and home-bred. Prize-winners both in Europe and America.



## America's Leading Horse Importers

Ours were the Favorite Percherons at the recent International Live Stock Exposition, Chicago. Five of our importation won First. Another one of ours won Championship.  
Our stallions won 10 out of a possible 17 prizes.  
Our French Coach Stallions won Every First prize at the great Chicago Horse Show.  
With our Percherons and French Coach Stallions we won Every First at the Iowa State Fair, Kansas State Fair, Kansas City Horse Show, Central South Dakota State Fair, and Ohio State Fair including Grand Sweepstakes all draft breeds competing.  
In France our horses were equally successful in the show ring, fifty of them being prize-winners in the two leading shows.

We Import More and Therefore Can Sell Cheaper Than Anybody Else.  
**McLAUGHLIN BROS., COLUMBUS, OHIO.**  
Emmetsburg, Iowa; Kansas City, Mo.



## Lincoln Importing Horse Co., Percherons, Shires, German Coachers.

Write or wire. A. L. Sullivan, Mgr., Lincoln, Neb.



## M. L. Ayres' Percherons

My October importation now in my Shenandoah Barns. 100 REGISTERED PERCHERONS on the farm; 75 STALLIONS. Most of them ton horses. Come and see them.  
M. L. AYRES, SHENANDOAH, IOWA.



## Draft Stallions.



## Percherons, Shires, and Belgians.

60 Head to Select From—ALL IMPORTED BY US AND GUARANTEED....

\$1,000 buys a good one from us this fall. It pays you to buy one now as you get him cheaper and keep out competition. Don't pay a big price for a horse, but come and see ours and get a good one for less money than a small importer can possibly sell for. Our stables are across the road east of the Burlington Depot.  
WATSON, WOODS BROS. & KELLY, Lincoln, Nebraska.

## SOLDIER CREEK HERDS OF HEREFORDS, SHORTHORNS, POLLED SHORTHORNS

HEREFORDS—Columbus 17th 91864, Elvina's Archibald 75998, Jack Hayes 2d 119761, Jack Hayes 3d 124109. SHORTHORNS—Jubilee Stamp 126017, Orange Dudding 149469. POLLED—Scotch Emperor 183648, Ottawa Star 118109. Herds consist of 500 head of the various fashionable families. Can suit any buyer. Visitors welcome except Sundays.  
Address JOSEPH PELTON, Manager, Belvidere, Kiowa County, Kansas.



## STEELE BROS., Belvoir, Douglas Co., Kans

Breeders of SELECT

## HEREFORD CATTLE

Young Stock for Sale. Inspection or Correspondence invited

## Scott & March, Breeders of Pure-bred HEREFORDS.

BELTON, CASS COUNTY, MISSOURI.

BULLS In Service: HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93662, FRISCOE 93674, FULTON ALAMO 11th 83731.

25 miles south of Kansas City on Frisco; Ft. Scott & Memphis; and K. C., P. & G. Railroads.

## FOR SALE--Sixty Shorthorn Bulls

35 Registered, Balance High-grades, and all Red. P. S. DUNCAN, Perrin, Clinton County, Missouri

## GLENDALE SHORTHORNS

Imp. Prince Lovely 155860 and Scotland's Charm 127264 in service. Fifteen young serviceable bulls for sale. One extra good young Scotch bull, sired by Imp. Royal Favorite 140612, dam Imp. Pavonia. Also 50 heifers and young cows mostly bred, some with calves by side. Visitors always welcome. Long distance phone at farm.

C. F. Wolf & Son, Ottawa, Kansas.

## SILVER CREEK SHORTHORNS.

The Scotch bull, Gwendoline's Prince 130913, in service. Also the imported Scotch Missie bull, Aylesbury Duke. 100 head of the best Scotch, Bates, and American families.

J. F. Stodder, Burden, Cowley Co., Kas.

## Pearl Shorthorn Herd Bull For Sale.

I now offer for sale, my great Cruickshank herd bull, Lafitte 119915, bred by W. A. Harris, got by Royal Knight 117203, out of 16th Linwood Lavender Vol. 38. Address

C. W. TAYLOR, PEARL, DICKINSON COUNTY, KANSAS.



## Closing Out Rome Park Poland-Chinas and Berkshires

Strictly choice show animals of Gilt Edged breeding. Established 20 years. For Sale—100 sows and gilts bred and not bred. 20 short yearlings and aged boars. Summer and fall pigs of all ages. Reduced prices before sale.

T. A. HUBBARD, ROME, SUMNER COUNTY, KANSAS.

## C. M. Irwin. S. C. Duncan, Mgr. ELM BEACH FARM, WICHITA, KANS.

BREEDERS OF

## Poland-China Swine

We have recently bought out the great R. S. Cook Champion Herd and combined same with the Elm Beach Herd, making us in a position to furnish swine of the highest grade. Poland-Chinas of all ages and either sex for sale. Write or come and see us. Farm is four miles north on Arkansas Avenue.....

# GREAT COMBINATION BREEDERS' SALE ...REGISTERED...

## SHORTHORNS AND HEREFORDS

TO BE HELD DURING THE CATTLEMEN'S CONVENTION AT OKLAHOMA CITY,  
TUESDAY, WEDNESDAY, AND THURSDAY, FEBRUARY 10, 11, AND 12, 1903.

Commencing at 1 O'clock P. M. Each Day.

On Tuesday and Wednesday,  
FEBRUARY 10 AND 11,  
80 Head of Herefords

Consisting of 40 Bulls of serviceable age and 40 Cows and Heifers, will be sold at auction. They are consigned by the following breeders:

Gudgell & Simpson, Independence, Mo.; Scott & March, Belton, Mo.; W. N. Shellenbarger, Oklahoma City, Okla.; Mrs. C. S. Cross, Emporia, Kans., and C. A. Stannard, Emporia, Kans.

These are strictly a high-class lot of cattle and we ask you to come and see them.

On Thursday, February 12,  
60 Head of Shorthorns

Will be sold—30 head from the famous Clover Blossom Herd, owned by Geo. Bothwell of Nettleton, Mo., and 30 head from the well-known Silver Creek Herd, owned by J. F. Stodder of Burden, Kans. The lot consists of 20 choicely bred Bulls, from 12 to 20 months old, some of them show Bulls, and 40 Cows and Heifers, bred to, or with calves at side, by such bulls as Imported Wanderer's Last and Imported Aylesburg Duke.

For Catalogue of Shorthorns, address

J. F. Stodder, Burden, Kansas.

Auctioneers: Col. R. E. Edmonson, J. W. Sparks, Lefe Burger.

For Catalogue of Herefords, address

C. A. Stannard, Emporia, Kansas

Reduced rates on all railroads to Cattlemen's Convention.

### ..PUBLIC SALE..

....OF....

## REGISTERED

# SHORTHORNS

FROM THE

Blue Grass Herd of J. S. McIntosh  
Eudora, Kansas.

To be held at Manhattan, Kansas,  
Monday, February the 16th, 1903.



A Choice and Select draft of 50 head of young stock selected out of a herd of 135 head. The offering consists of 47 Cows and Heifers and those of breeding age will have calves at foot or safe in calf to the noted Scotch herd-bull, Color Bearer 127045. Three bulls of serviceable age, splendid individuals, are also included in the offering. Of the 33 cows, 26 will have calves at foot. The entire female offering are splendid individuals and the cows and heifers will weigh from 1,400 to 1,700 pounds and the entire lot will average 1,400 pounds or better.

This sale will dedicate the new Sale Pavilion erected by C. P. Dewey & Co., at Manhattan. For Catalogues, address

J. S. McINTOSH, Stock Yards, KANSAS CITY

Auctioneers: Col. Jas. W. Sparks, Marshall, Mo.  
L. R. Brady, Manhattan, Kans.

### ....PUBLIC SALE....

OF 42 HEAD OF  
PERCHERON  
STALLIONS  
AND MARES

February 20, 1903,  
AT MILAN, MO.

From Mt. Vernon Stock Farm the home of REGINA, the Champion mare of all ages at the International Show at Chicago, December, 1902.

We don't boast of having the largest herd in America, or that we import all the prize-winners from France; but we do boast of being an American breeder. We boast of breeding right here in America, the kind that defeats the imported ones, and break all previous records. We boast of raising the useful kind that know how to work and defeat the horse-kind that never looked through a collar. We boast of having as good as anybody, and we invite you to attend our sale and verify this statement. Terms, cash; but arrangements can be made before the sale, by responsible parties, for private terms. Send for Catalogue. S. S. SPANGLER, Milan, Mo.



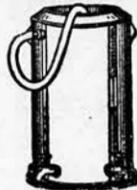
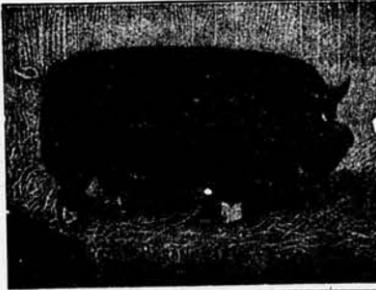
REGINA,

The champion Percheron mare, all ages, at the International Live Stock Exposition at Chicago, 1902. Owned by S. S. Spangler, Mt. Vernon Stock Farm, Milan, Missouri.

### THE WILLOWDALE BERKSHIRES

ROYAL BARON 58846, the Greatest Show Boar in the World, at head of herd. Home of the Winners. Young Stock of All Ages For Sale.

G. G. Council,  
WILLIAMSVILLE, ILL.



### Smith Cream Separator

The first on the market that does not mix the milk and water. Others are imitations. Beware of these and mix-water separators. If you want the best FARM SEPARATOR ever placed on the market, and sold under a positive guarantee, get the old reliable (SMITH.) No labor, more cream, better butter, and milk fine. Agents wanted. Mention the Kansas Farmer.

Smith's Cream Separator Co., East Sixth and Court Ave., Des Moines, Iowa.

Send 22 cts. to the FARMER'S CALL, QUINCY, ILLS. and the names and addresses of ten good farmers for a year's subscription. 20 or more pages weekly. Est. 1880. Complete in all departments, including Women's and Children's. JOHN M. STAHL, Ed. and Prop. This offer good for new subscribers only. Stamps taken. Sample copy free.



### A Grand Opportunity for Buyers of Herefords.



**YOU WILL BE THERE  
AT KANSAS CITY, FEBRUARY 25-26, 1903**  
if you are a discriminating buyer of

# REPRESENTATIVE AND IDEAL..... **HEREFORDS.**

**"The Kind That Has Made the 'Whiteface' Famous."**

This grand offering of **140 Hereford Cattle** consists of 90 Cows and Heifers, safely in calf to noted herd bulls or with calves at side; also 50 Bulls of serviceable age. The best produce of some of the best herds in America, namely:

Gudgell & Simpson, Independence, Mo., 30.  
C. A. Stannard, Sunny Slope, Emporia, Kans., 33  
Scott & March, Belton, Mo., 33  
Frank Rockefeller, Belvidere, Kans., 26.

Mrs. C. S. Cross, Emporia, Kans., 2.  
W. B. Wadell, Lexington, Mo., 3.  
Fritz & Shea, 6; Geo. B. Baker, 3.  
Logan B. Chappell, 1.



This sale affords a great opportunity for the BREEDER, the RANCHMAN, and the GENERAL FARMER, to secure foundation stock of females, also bulls for herd-headers from the most famous sires and dams in America. Animals can be secured cheaper than at private sale with the best herds from which to make selections.

The consignments for this sale are the best young cattle from the herds of the above-named owners and every animal sold will be a good one. You are cordially invited to attend this sale. For Catalogue, address

**C. A. STANNARD, Emporia, Kansas.**

Auctioneers: Cols. F. M. Woods, R. E. Edmonson, J. W. Sparks, Carey M. Jones.



## AN IDEAL SALE

...OF...

# SHORTHORN CATTLE

At Kansas City, February 10 and 11, 1903  
At the Kansas City, Mo. Stock Yards Sale Pavilion.

Where Will You Be On Those Dates? Make No Other Dates. If Not, Why Not? Because!! The "Bone and Sinew" of the Shorthorn Breeding Fraternity Will Be Present and "Whosoever Will May Come," Because!!! It is An "Even Break" Offering from Two Champion Shorthorn Herds of America. . . . .

NO FANCY PRICES EXPECTED. - - - - BUYERS' OWN PRICES WILL TAKE THE CATTLE

**On Tuesday, February 10, 1903,  
T. J. WORNALL & SON**

Will sell 49 Cows and Heifers and 10 Bulls from the Grassland Herd of Shorthorns, comprising 23 Scotch cattle and the balance, Bates and Scotch-topped Bates and American families. It will be the best high-class offering of Grassland Shorthorns ever made. For Catalogue, address

**T. J. Wornall & Son, Liberty, Mo.**



**On Wednesday, Feb'y 11, 1903,  
COL. G. M. CASEY**

Owner of Tebo Lawn Herd of Shorthorns will make his first public auction from this Celebrated American herd—the Great Champion Shorthorn Herd for 1902. Over 50 head, including 9 young Bulls, 21 Cows with calves at foot, balance of breeding age guaranteed safe in calf, 12 bred to Choice Goods. For Catalogue, address

**E. B. Mitchell, Mgr. Tebo Lawn Herd,  
CLINTON, MISSOURI.**

**Cols. F. M. Woods, Carey Jones, R. L. Harriman, W. A. White, Auctioneers**