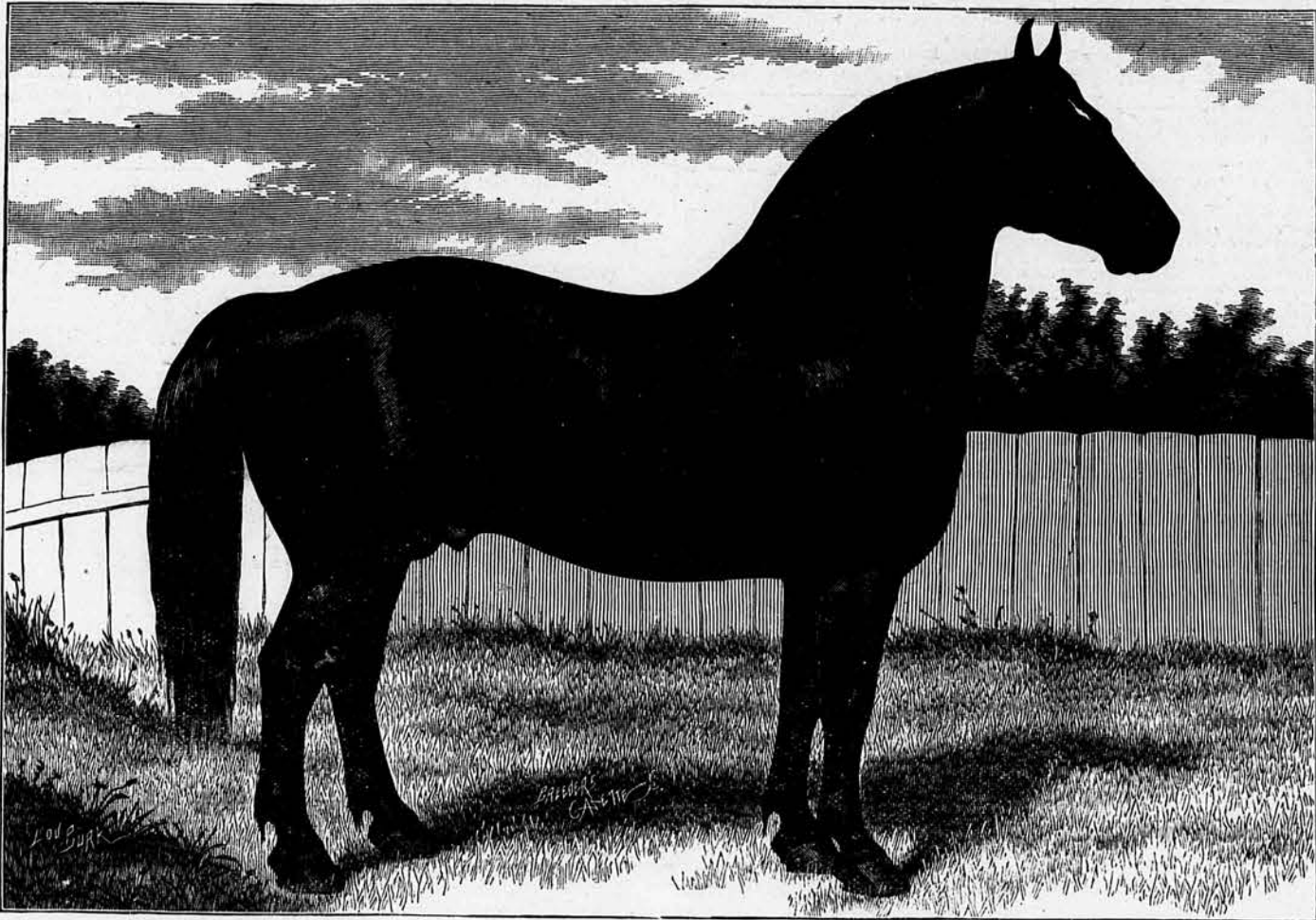


KANSAS FARMER

VOL. XXXIX.
NO. 38.

TOPEKA, KANSAS, THURSDAY, SEPTEMBER 19, 1901.

ESTABLISHED IN 1863
\$1.00 A YEAR.



Imported Percheron Stallion, Reveur (30216) 13640

Owned by J. W. & J. C. Robison, Towanda, Kans. The sweepstakes draft stallion at the Central Kansas Fair at Hutchinson.

Breeders' Directory.

SWINE.

D. TROTT ABILENE, KANS., famous Duroc-Jerseys and Poland-Chinas.

Registered Stock, **DUROC-JERSEYS**, contains breeders of the leading strains.
N. B. SAWYER, - - Cherryvale, Kansas.

M. H. ALBERTY, - - Cherokee, Kansas.
DUROC-JERSEYS.

100 head for this year's trade; all eligible to record.

MAPLE AVENUE HERD **J. U. HOWE,**
DUROC-JERSEYS. Wichita, Kans.
Farm 2 miles west of city on Maple Avenue.

V. B. HOWEY, Box 103, Topeka, Kansas.
Breeder and shipper of Poland-China hogs, Jersey cattle, S. L. Wyandotte chickens. Eggs in season.

FAIRVIEW HERD DUROC-JERSEYS
Has 80 pigs of March, April, and May, 1901, farrow for this season's trade at reasonable prices.
J. B. DAVIS, - - Fairview, Kansas.

MOUND VALLEY HERD OF POLAND-CHINAS
Has some very fine spring pigs of either sex for sale at famine prices. Give us an order and we will surprise you as to prices and individuals. Most popular blood represented. Everything guaranteed as represented.
W. F. WIMMER & SON, Mound Valley, Kans

SWINE.

POLAND-CHINAS. 90 good spring pigs; bred but they are choice. Write for one. Don't delay.
DIETRICH & SPAULDING, Richmond, Kansas.

A FEW POLAND-CHINA PIGS FOR SALE.

Fine individuals. "Chief I Know" and "Look Me Over" strains. **R. J. Conneway**, Edna, Kans.

DUROC-JERSEY SWINE—REGISTERED

Write for prices on what you want; 100 to select from.....
NEWTON BROTHERS, Whiting, Kans.

RIVERSIDE HERD OF POLAND-CHINA HOGS.

80 head spring farrow, both sexes, fancy bred, prices reasonable. Also Commodore Dewey 46187, the prize-winner of southern Kans. Write for prices on this noted show hog. **M. O'Brien**, (Riverside), Liberty, Kas

D. L. BUTTON, North Topeka, Kas
BREEDER OF
IMPROVED CHESTER WHITES
Stock For Sale.
Farm is two miles northwest of Reform School.

STANDARD HERD OF Registered Duroc-Jerseys

PETER BLOCHER, Richland, Shawnee Co., Kans.
Herd headed by Big Joe 7363, and others. Write for prices on what you want. **S. C. B. Leghorns.**

SWINE.

T. A. Hubbard,

ROME, KANS., Breeder of POLAND-CHINAS and LARGE ENGLISH BERKSHIRES.

Two hundred head. All ages. Twenty-five boars and 45 sows ready for buyers.

SUNNYSIDE HERD OF Pedigreed Poland-China Hogs

We now have for sale some extra good young boars, and a lot of gilts 8 to 10 months old. All good. Gilts will be bred or sold open as desired. This is a choice lot of young stuff that will be priced cheap, quality considered.

M. L. SOMERS, Altoona, Kans

SHADY LANE STOCK FARM. HARRY E. LUNT, Proprietor, Burden, Cowley Co., Kans Registered Poland-Chinas

25 Boars and 25 Gilts of late winter farrow, sired by Searchlight 25518, and Look No Further. Dams of the Black U. S., Wilkes, Corwin, and Tecumseh strains. Prices low to early buyers.

Verdigrls Valley Herd POLAND-CHINAS.

Large-boned, Prize-winning. We have for sale 80 head of fall pigs—the best grown out lot we ever raised. We can furnish herds not akin, of any of the fashionable strains. We have several that are good enough to fit for next fall's shows. Prices reasonable. Nothing but good ones shipped on orders.

WAIT & EAST, Altoona, Kansas.

SWINE.

KANSAS HERD OF POLAND-CHINAS has some extra fine spring gilts, some January gilts, and sows 18 months, bred to Sen. I Know, he by Perfect I Know; and some nice fall boars by Sen. I Know, and U. S. Tec. Address **F. P. MAGUIRE**, HAVEN, RENO COUNTY, KANSAS.

Ridgeview Farm Herd of LARGE ENGLISH BERKSHIRES

Have for sale—spring pigs of quality, at reasonable figures. Write us before buying.
MANWARING BROS., Lawrence, Kans

High-Class Poland-China Hogs

Jno. D. Marshall, Walton, Harvey Co., Kans.,
Breeds large-sized and growthy hogs with good bone and fine finish and style. FOR SALE—Thirty October and November gilts and 15 boars; also 100 spring pigs, sired by Miles Look Me Over 18879. Prices right. Inspection and correspondence invited.

* LOCH AERIE * STOCK FARM

W. S. POWELL, Moline, Elk Co., Kans.
For Sale: A few boars and gilts farrowed in January, sired by Perfection 24535, and out of the dams: Lady Sanders, Lady Hadley Sanders, an Lady Alice Sanders. Price very low.
Will also sell recorded Scotch Collie pups

Agricultural Matters.

More About Pasturing Wheat.

EDITOR KANSAS FARMER:—A short time ago I wrote a letter to the KANSAS FARMER advocating the planting of soft instead of hard wheat this fall on account of the superior winter pasturage furnished by the former. I have had so many letters from readers of the FARMER asking all kinds of questions about pasturing, how much to sow, when to sow, etc., that for their information, as well as others interested, I will give more fully my last season's experience. Last fall we planted 8,000 acres in wheat on Ranch 101, on the Ponca Reservation, near Bliss, Oklahoma. We began sowing wheat September 2, and finished October 15. On our richest bottom land nearly 2 bushels to the acre was sowed while on some of the upland where the soil was not so rich only a bushel and a peck was used.

On the 8,000 acres of wheat we wintered 6,000 head of cattle. Some of the cattle were turned in on the first planted wheat about October 10 and all of them were on the wheat by November 10. Our wheat fields are fenced off into fields of from 500 to 2,500 acres each, with water in each field. We thresh the wheat in the field, and stack the straw in good shape, and usually salt it as it is being threshed. Stock will eat a good deal of such straw even when they can get green wheat, and it also gives them a protection during storms and a place to bed at night. In one field of 1,200 acres we turned in 750 Texas steers October 10. A short time before we had shipped 10 cars to market, they being an average lot of this herd. They brought \$2.60 per hundredweight. During the last days of December the 750 head were marketed and sold right along with corn fed cattle, bringing from \$3.90 to \$4.15 per hundredweight. The profit in this herd of cattle more than paid all expenses on the field of wheat, even to the harvesting. After these cattle were shipped another lot was turned on and remained until April 1, coming off in fine condition. They were then fed on corn fodder until April 18, then turned in the grass pasture—grass in this section being good by that time. The cattle were never off this field a day, wet or dry, until they were marketed or taken off in the spring. This field averaged 35½ bushels at threshing. Not having graineries to store all of our wheat on the ranch, a part of it was sent to Winfield, Kansas, and stored there in an elevator. We have shipped a number of cars from that lot to different places for seed purposes, and on every car Mr. B. F. Wood, Kansas grain inspector, has issued certificate of grade No. 1. This wheat, the "Frost Proof May," has a smooth head and doesn't shatter easily. It stands up well and is the earliest wheat grown. It makes more winter pasturage than any wheat we have found, and stands the winter as well as the hardest hard wheat, the thermometer having been as low as 18° below zero, and none of it winter killed. We have had some costly experience in our attempts to find a wheat that would make good pasturage and not winter kill. We have grown this wheat long enough to have passed the experimental stage. Each season we plant small lots of "experiment wheats," and we have found none that gives such satisfaction as "Frost Proof May." Any of your readers desiring samples of this wheat or any other information will be accommodated by addressing me, enclosing stamp for postage.

J. C. MILLER.

Bliss, Oklahoma.

Can Not Kansas Entomologists Do as Well?

Information comes from Manila that enormous swarms of locusts have seriously damaged the crops in the southern islands and have also made their appearance in the region around Manila. The Philippine commission is taking prompt measures to stop the ravages of this insect pest. Having a supply of the fungus culture that has been used with such remarkable results in killing locusts in South Africa, an agent of the health department has been assigned to distribute it in the regions where the crops are being destroyed. This remedy is comparatively new, but is reported to have proved to be most efficacious in regions where it has been tried, and there is reason to believe that it will stop the ravages of the pest in the Philippines.

Only six years ago, according to

accounts, the swarms of locusts that has been eating everything green in parts of Cape Colony suddenly became the victims of an epidemic that destroyed nearly all of them. An investigation was set on foot to try to discover what kindly influence had so unexpectedly rid the country of the little pests. The result of the investigation seemed to prove conclusively that the disease was the result of feeding upon a fungus growth which was not only poison of the locust eating it, but also so infectious that a few of the diseased insects could in a very short time communicate the malady to millions of others.

In the following year, 1896, there was every indication that Natal would suffer from a plague of locusts, when suddenly the epidemic broke out in the new crop of insects to the great relief of the colony, whose crops were thus saved from destruction. Then the idea occurred to somebody that it might be possible to infect numbers of the locusts with the malady and send them abroad to propagate it whenever their brethren became troublesome.

The Bacteriological Institute of Grahamstown, Cape Colony, began a series of experiments with the fungus and the locusts. The investigation resulted in obtaining a pure culture from the fungus, which is now known as the locust fungus. All the insects brought into contact with it died in a few days.

South Africa, it is said, teemed with locusts in 1897. Great swarms of them threatened to desolate large areas from Cape Colony to Rhodesia. Now or never was the time to test the efficiency of the locust fungus. Experiments on a large scale in the artificial propagation of the disease were conducted in Cape Colony, Natal, and Rhodesia. The results surpassed expectations. Millions of the insects perished within a few days after a few individuals infected with the culture had been turned loose among them. The best results were obtained in rainy weather when the locusts remained longest in one place, thus facilitating the thorough dissemination of the disease among them. The least results were in hot, dry weather, when the flight of the locust was rapid, and the sick being left far behind, a great many escaped the infection.

How to Escape the Hessian Fly.

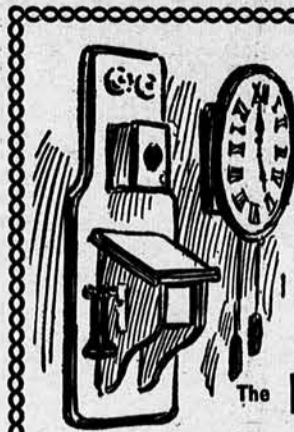
Director Chas. E. Thorne of the Ohio Agricultural Experiment Station has sent out the following suggestive press bulletin:

In the fall of 1900 the Ohio Experiment Station made weekly sowings of wheat from August 31 to October 26 at the Central Station at Wooster, and from September 1 to October 13 at the substation at Strongville, 40 miles north. Other sowings were made at both places from September 18 to October 1. In both tests the first sowing was practically untouched by the fly. At Wooster, the wheat sown September 7 and 14 was more than half destroyed, and that sown September 23 made about three-fourths of a crop, and that sown after October 1 escaped injury. At Strongville the injury culminated in the sowings of September 15 to 18, the wheat sown on the later date being almost completely destroyed. On wheat sown after September 25 there was but little injury.

At Columbus, wheat sown October 4 and 5 suffered but little. In the southern part of the State wheat sown before October 10 was considerably injured, while that sown after that date measurably escaped.

It will be observed that the dates of safety from the fly indicated by these experiments are generally later than it has heretofore been supposed to be necessary to wait to avoid the fly; but in 1877 Prof. A. J. Cook, writing of the disastrous attack of fly in that State observed that destructive attack was repeatedly observed on wheat sown as late as September 20, and Director C. D. Smith, of the Michigan Experiment Station, has reported severe injury to wheat sown there the 20th of last September.

It seems, therefore, that the date of actual safety, in seasons of general prevalence of this pest, is so late as to incur as great a risk of winter-killing as the ordinary risk from the fly. The farmer who will observe closely, however, has it in his power to reduce his risk somewhat by the following method: Sow a part of the crop at a medium early date, say September 15 to 18, for the southern part of the State; and then in about three weeks examine the wheat plants very carefully at the point where the well known "flaxseeds" of the fly are found. It will be too early as yet to find the "flaxseeds," but if the fly



Talk a Minute Save an Hour

Get a Telephone NOW. You will save hours of valuable time. Costs little. Easy to install. We ship at once.

The Farmer's Telephone Costs You \$11

It's yours. You own it for life without making any further payments. Not controlled by any trust. No rent to pay. Wire and poles at lowest prices.

AGENTS WANTED—To solicit farmers in neighborhoods not already taken. Thousands in use. Sell wherever shown. Best thing for the farmer ever invented. Write for special terms to agents, booklets, etc.

Send us your name and that of your nearest neighbor and the shortest distance from your house to his and we will send you full particulars and facts on Telephone construction worth while knowing.

KELLOGG SWITCHBOARD & SUPPLY CO., 252 S. Green Street. CHICAGO.

has commenced its work the very small, white maggots which later develop into the "flaxseeds" should be found sucking the juice from the plant. These maggots are at first so small that it will require close searching to discover them, and a magnifying glass of low power will be a help, though not absolutely necessary.

If the maggots are found it will be wise to delay seeding a few days longer; but if none are found the whole crop may be sown with good assurance of escape.

The advantages of this method are not only that it will enable us to discover whether the fly is present in injurious numbers at an earlier date, but that if the fly be present it will probably be attracted to the early sown wheat and induced to deposit all its eggs, thus effectively protecting the wheat sown later. To accomplish this object a considerable area must be sown, for we have had no evidence that the tenth-acre plots used in our experiments in early and late seeding have exerted any protective influence on the remainder of the field in which they were located. On the other hand, we have found the general attack upon our field work to be made at about the dates when the weekly sowings were most severely attacked.

Numerous instances have been reported in which wheat sown one day has been attacked by fly while that sown the day following has escaped. These can only be satisfactorily explained on the assumption that the earlier sown wheat attracted the fly and proved sufficient in area to occupy all the files in the immediate neighborhood.

In case of an injurious attack developing upon the early sown wheat it should be turned under, in order to destroy the insects and prevent a further attack the following spring. The cost of turning under and reseeded would usually be small in comparison to the loss which would result from the fall attack and from carrying over a host of flies to prey upon the crop during the spring.

Possibilities in Increased Wheat Yields.

FROM THE NATIONAL RURAL.

A cry similar to the one questioning what will become of the world when the coal supply gives out was that of Sir William Crooke as to the conditions here when the world will not produce enough wheat to supply all the people—a condition, he claimed, very near at hand.

However, the Minnesota School of Agriculture has assumed that when the time comes that the total acreage now planted and to be planted in wheat produces all of the wheat possible under present conditions, there is still a broad avenue of escape, and that is through increased yield per acre—the yield might in time be doubled or even trebled by the application of wheat culture of the scientific methods and experiments to which Sir William Crooke looks for the creation of a new kind of food.

The Minnesota station reports that by cross-fertilization new varieties of wheat have produced the average yield of 27 bushels, as against 19 bushels per acre of the old kind.

The test was a fair one, neither field having any advantage in soil or cultivation. It appears from this experiment enormous increase in the world's wheat supply is quite possible without

any increase of wheat-bearing acreage. In a report on the experiments the statement is made that when the new wheat is in use in the 3 States of North Dakota, South Dakota, and Minnesota, assuming that an increase of only 2 bushels per acre is secured, the total yield of the States named will be at least 30,000,000 bushels greater than the present varieties are yielding. Again, supposing the average price to be 60 cents per bushel this increase would make this one region richer by \$18,000,000 each year.

The American Wheat Crop.

Following are comments and estimates on the American wheat crop by the "Millers' Gazette and Corn Trade News" of London, England:

Cables received this week state that the spring wheat threshing is proving disappointing, but this has apparently no effect upon holders, who have been hurrying their wheat to market, with the result that the shipments to Europe lately have beaten all previous records, averaging 925,000 quarters per week for the past month for Europe only. Operators still entertain some doubts as to the real extent of the crop, the estimates of which vary from 650,000,000 to 750,000,000 bushels. Bearing in mind the tendency to under-estimate the American crop, it may be well to assume that it will reach a total of 700,000,000 bushels, which was practically the total of the 1898 crop. This latter crop, however, came at a time when the reserve stocks were down to their irreducible minimum point, viz., 50,000,000 bushels, so that if we start from that point we may obtain a fair view of the position.

	Bushels.
Crop of 1898.....	700,000,000
Visible and Invisible Supply on August 1, 1898.....	50,000,000
Total Supply	750,000,000
Exports 12 months ended July 31, 1899	225,000,000
Home requirements	400,000,000
Total distributed	625,000,000
Leaving Visible and Invisible on August 1, 1899.....	125,000,000
Crop of 1899.....	575,000,000
Total Supply Aug. 1, 1899.....	700,000,000
Exports 12 months ended July 31, 1900	180,000,000
Home requirements	405,000,000
Total distributed	585,000,000
Leaving Visible and Invisible on August 1, 1900.....	115,000,000
Crop of 1900.....	580,000,000
Total Supply Aug. 1, 1900.....	695,000,000
Exports 12 months ended July 31, 1901	215,000,000
Home requirements	410,000,000
Total distributed	625,000,000
Leaving Visible and Invisible on August 1, 1901.....	70,000,000
Estimated Crop of 1901.....	700,000,000
Total Supply Aug. 1, 1901.....	770,000,000
Total Supply Aug. 1 1900.....	695,000,000
Total Supply Aug. 1, 1899.....	700,000,000
Total Supply Aug. 1, 1898.....	750,000,000

Leaving 50,000,000 bushels as the irreducible minimum, and allowing the home requirements to the 450,000,000 bushels, including the extra quantity required to take the place of maize, the deduction is that America could, if necessary, export 270,000,000 bushels in the forthcoming season, which is about 50,000,000 bushels larger than the previous highest export in any season.

THE AGRICULTURAL COLLEGE QUESTION.

Since the agricultural college question was brought to public attention a few weeks ago several prominent papers have taken part in the discussion. It seems to be generally understood that a good many agricultural colleges are at the parting of the ways, and that the decision must now be made whether they are to fulfill the purposes for which they were created with fidelity and with honor, or are to sink into mediocre institutions without definite aim.

The fact that our Kansas State Agricultural College and the experiment station connected with it need some improvements, which have been proposed by the proper committee of the board of regents, and that such improvement has been advocated by the KANSAS FARMER, has been distorted by some into an assumption that the institution is all wrong and therefore needs making over. That other improvements than those at present suggested will be made in due course can scarcely be doubted. These improvements need not come in the manner of revolution, unless those in authority neglect to make them successively. But that the Kansas institution will be in the advance guard of the practical agricultural colleges and that its experiment station will be made to do with energy the special work in plant-breeding and in soil-physics, which our peculiar conditions so strongly demand, may as well be recognized by those on whom the responsibility rests.

The proposition now pending, and which the regents have been postponing in a manner which seems unreasonable, does not affect the teaching of the college, but provides for the vigorous prosecution of the work of plant-breeding. How can the farmers of Kansas be expected to patiently endure the uncertain, irregular, and unproductive manner in which the Kansas station has conducted this work, when the farmers of Kansas are confronted with an improved yield of 2 bushels on every acre of wheat wrought for their chief competitors by the Minnesota Experiment Station? It need not be thought that this demand for effective work at plant-breeding, at the Kansas State Experiment Station, will prove temporary, and that public attention will soon be diverted from it. Kansas is not the kind of State to mutely submit to being distanced in a matter affecting the welfare of the people to the extent of several millions of dollars each year. The KANSAS FARMER refuses to believe that the gentlemen of the present board of regents will neglect the present opportunity to honor their own records by providing for this work according to the recommendation of the resolution ber 25. As an illustration of the positions taken by prominent papers we copy the following, including an editorial from Wallace's Farmer on a phase of the problem in Iowa, and a characteristic letter from Hon. Edwin Taylor:

The Full Current.

EDITOR KANSAS FARMER:—How I wish I could say some word that would help, even ever so little, to swing the agricultural college into the "full current" which would bear it into greater usefulness and renown!

We are told that that institution is now at the parting of the ways. Three of the regents want to put the study of farming in the background, reduce the appropriation for that branch of investigation and then lock it up from all but those who have had a previous "four years' course." The actual farm operations on a working scale, introduced at the agricultural college in the last few years, those object lessons in dairying, stock-feeding, stock-breeding, and crop-raising which have made the last five years of that school worth more than all its previous existence to the State of Kansas, are to be whittled down and then bottled up—if these gentlemen have their way.

What they really want, it would seem, is to have the State university duplicated at Manhattan.

Another portion of the board of regents favor keeping the university at Lawrence and building up at Manhattan a school where a farmer's son may be taught the art of farming and the use of tools as a first consideration.

A great majority of the sons of our Kansas farmers will never go higher in the way of a general education than the country academy or the village school. They have neither the time nor the money for four years at college.

But they are abundantly prepared for instruction and drill in what might be called agricultural tactics and strategy—the details of farm operations con-

ducted in the most efficient manner standing for "tactics," "strategy" representing the part played in the business of farming by system, forecast, routine, and all other factors that make for its success. It means prosperity for such young people, and for the State of which they are a part, to have those "special courses" thrown open without the limitations that are proposed.

The end and aim of the agricultural college, as held by Congress and the State legislature, is not scholarship but business. The act of October 1890 is most specific—"to be applied ONLY to instruction in agriculture, the mechanics, arts, the English language and the various branches of mathematical, physical, natural and economic science, WITH SPECIAL REFERENCE TO THEIR APPLICATION TO THE INDUSTRIES OF LIFE." (Small caps mine.)

The department of applied farming ought to be the lead of the agricultural college "corner." It should be given the freest scope, not less for the young farmers than for the old. Kansas agriculture has received a distinct impetus from that department of late years. Its future promises even greater good to the greatest industry of the State if only the regents would let up from hiding its light under a bushel.

EDWIN TAYLOR.

Edwardsville, Kans.

The Iowa Agricultural College.

FROM WALLACE'S FARMER.

A trustee of the agricultural college writes us as follows:

"Your recent editorial entitled 'Sustain the Agricultural College' would lead us to suppose that you had been a member of the board and thoroughly acquainted with the past history of the college. At least, you could not have described it more accurately if you had been a member for the last two years. I hope you will have a good deal more to say about the necessity of greater support from the State of the agricultural side of the institution and its different departments, and also of the experiment station.

"There is a great field open for investigation demanding both money and work. I think we should have a permanent fund provided by the State of not less than \$50,000 with an increase for the next ten years of not less than \$5,000 and I believe it should be \$10,000 a year. Experiments commenced should have funds enough to carry them on for several years in order to make them really valuable. This is expensive work and money ought to be where it can be had to carry on the work. The State would get it back a hundred times. You know this as well as I do.

"I appreciate such talk coming from the leading agricultural paper of the State. We need more men that will speak out plainly. If we had a little more plain talk, we would not have as hard a time to get what belongs to us."

Our correspondent, who looks at things from the inside, is entirely right. One great trouble with the various agricultural colleges is that the funds intended for the education of the young people in "agriculture, the mechanic arts and sciences relating thereto," have been diverted to giving a general education such as can be had in colleges and universities. This could hardly be avoided at the time for several reasons. First, farmers generally, when land was cheap and retained its virgin fertility, did not realize the necessity of an agricultural education. Second, competent teachers of agriculture were not to be had. There was a vast amount of knowledge lying around loose, but it had not been put in what teachers call the "pedagogic" form; that is, in form adapted to teaching. There were no text books. The literature had to be created. There was an abundance of teachers in other lines and it was therefore easy to divert the funds intended for agricultural education to the education of men for doctors, lawyers, and preachers.

In the last few years farmers have begun to realize the necessity for more thorough education in agricultural lines and of experimentation in order to find out what to teach. It will take some years for the farmer to get his own and reconstruction will be necessary in nearly all the agricultural colleges.

We met with the article above mentioned for the first time when on our way home from Europe. We handed it to a professor in an agricultural college, who handed it back with the remark that the statements made with reference to the Iowa Agricultural College were in a large measure true of every agricultural college of which he had any knowledge.

The trustees in agricultural colleges

are not chosen primarily with reference to their fitness. They are chosen by the various State legislatures and largely for political reasons, the assumption being that any man who has attained a certain degree of prominence in his party is competent to direct agricultural education. Sometimes very excellent men are chosen; at other times men who have no sympathy whatever with agriculture; and the worst man is frequently a farmer with a political bee buzzing around in his bonnet. Sometimes men are chosen who are graduates of the college and who wish to make it more literary in character, in order to put, as they imagine, more value into the sheepskins or diplomas which they received at graduation.

The fact that the college authorities have dropped out the word "agricultural" from the title shows how far this feeling goes. The real title of the Ames college is the "Iowa State College of Agriculture and Mechanic Arts." It is a pretty long title, but it would have been far better to have dropped out the word "State," which is implied in the word "Iowa," and to have retained the word "Agricultural." We never read that title, "The Iowa State College," without thinking what the elimination of the word "Agricultural" means. It means that the men who are in charge of it are not in as full sympathy with agriculture as they should be.

This may seem in some quarters plain talk; but as our correspondent suggests, it is time for plain talk on this subject. If agriculture is to succeed in the future, there must be every opportunity afforded for our farmers' sons to get the best possible agricultural education. How to help bring this about is another question, which will have to be answered later.

Farm School or College?

CORRESPONDENCE KANSAS CITY STAR.

The approaching meeting of the board of regents of the State agricultural college promises to be marked by an interesting contest. There is at stake the broad question of the ultimate purpose of the institution and the policy upon which the appropriations shall be expended. Two factions exist, both in the board and among the friends of the institution. One, led by Secretary F. D. Coburn, desires to make the college purely an agricultural school. The success of the Wisconsin, Iowa, and Minnesota colleges is pointed to as examples of what can be done in building up the farm and dairy lines. It is the argument of this faction that the 3 State schools should pursue different courses—that the agricultural college should make farming predominant, the State normal school should train teachers, and the State university educate in the professions and arts. This, it is claimed, is the intention of the State's school system, and that there should be no overlapping of one school upon the functions of the others.

The other faction, led by President Nichols, desires to make the agricultural college a strong general school, paying especial attention to chemistry, physics, botany, zoology, and mathematics. It opposes special work in dairying, stock-feeding, or crop-raising, at least until after a general education has been secured. Strong opposition is made to the three months' course in dairying and farming, and it is proposed to cut this out of the college's curriculum. Students are to be compelled to take the full four years' general course before entering these special classes. It is argued that students should be able to secure at any of the State's schools a full preparation for any purpose in life, and is a part of the tendency that has led to the extension of the State university's courses into broader fields that are also covered by the agricultural college.

DIVISION OF THE REGENTS.

Last winter the legislature passed a

Wanted

Every farmer and teamster to send us his address on a postal card and we will "do the rest!" Don't buy a Wagon until you hear from us.

TIFFIN WAGON CO.,

1203 Union Ave., Kansas City, Mo.

law making the president of the college a regent of the school, ex-officio. This has been in effect only since April 1. President Nichols is supported by 2 members, E. T. Fairchild, of Ellsworth is one of these. He is principal of the Ellsworth city schools and is credited with being a candidate for State superintendent of instruction at the close of Superintendent Nelson's term. He is a school man rather than a farmer and opposes the special farm work on much the same ground as President Nichols. Dr. Hunter, of Blue Rapids, a practicing physician, is also of this belief. He has for two years opposed the extension of farm studies in the college and wants to give the boys and girls a general education. He is specially interested in electrical engineering and wants more attention given to that branch.

With Secretary Coburn are Captain J. S. McDowell and Senator Stewart. The former lives at Smith Center and is a strong advocate of farm education. He has been on this side of the controversy from the beginning. Senator Stewart, of Iola, is a farmer and naturally wants to build up that branch of the work. He is a strong believer in Secretary Coburn and votes with him on almost every proposition.

The seventh member of the board, in this contest the deciding factor, is J. S. Saterthwaite, of Douglass, Butler County. He was a typesetter and several years ago started the Tribune in Douglass, which he yet manages. He votes sometimes with Secretary Coburn and sometimes with President Nichols. He has taken no sides in this difference.

MR. COBURN'S PLANS.

At the June meeting of the board Secretary Coburn presented 13 resolutions providing plans for improving the dairy and farm work of the college and based to some extent on what the Iowa, Wisconsin, and Minnesota colleges are doing. The board was divided, 3 and 3, and Regent Saterthwaite voted sometimes on one side and sometimes on the other with the result that nothing definite was accomplished. The income of the college is divided July 1 for the fiscal year, the appropriation being apportioned among the departments—farms, mathematics, chemistry, etc. The president of the college makes a schedule, the board amending and adopting it. This year President Nichols gave \$5,000 for the expenses of the farm department and it was adopted by the usual close vote. This is for the year ending June 30, 1902. It cost \$6,300 to run this department last year and the new plans proposed by Secretary Coburn so increase the expense that it will take close work to get through with \$7,000.

The \$5,000 appropriation was for all

BUY ONLY THE BEST.

If you wish to bale the most hay in the shortest time; make the most compact and even sized bales; get the most in a car and thus save freight, USE THE

Long Feed Opening

"ELI" BALING PRESS.

Made in 38 styles and sizes. Made entirely of steel, combining lightness, strength & efficiency. Largest feed opening—perfectly safe to feed. Easiest to handle at work or on the road. Illustrated catalogue mailed free.

COLLINS PLOW CO. 1120 Hampshire St., Quincy, Ills.

Grow Frost Proof May Wheat!

A soft variety, smooth head, and big, stiff straw. Makes an immense amount of WINTER PASTURAGE. Out-yields all others, and graded this year No. 1. Yielded 35 to 42 bushels per acre. Stands the winter as well as the hardest hard wheat. Can be sown as late as October 20. Price \$1.00 Per Bushel F. O. B. Bliss, Oklahoma. Add 20 cents for 2-bushel seamless sacks. Prompt shipment.

J. C. MILLER, Superintendent RANCH 101

BLISS, OKLAHOMA.

Largest Growers of Seed Wheat in the World.

expenses in dairying, stock-feeding, and crop production. At the Wisconsin school the dairy work alone cost \$7,000, and at the Minnesota school the 3 lines of work for which \$5,000 was appropriated cost \$40,000.

The advocates of the dairy and farm departments point to the school's history as upholding their theory. In 1892-3 the college spent for farm work \$6,851 and the total attendance was about 600. The attendance on the farm classes has increased faster than the attendance on the college proper. In 1896-1897 the enrollment in the farm classes was 115. Last year, 1900-1901, the enrollment was 1,178. In 1892 there was no dairy work whatever and in that year farm work received over \$6,000 with 600 pupils at the school; now \$5,000 is appropriated with an enrollment in the college of 1,321.

There will be at the meeting of the board, September 25, an attempt to reconsider the amounts given out and add at least \$2,000 to the farm department.

FARM BOYS WENT TO OTHER STATES.

During the early '90s the Kansas farm boys who wanted to take a short course in dairying and farm work went to the Wisconsin and Iowa colleges. They spent three to five months in the proper departments and came back to take charge of creameries and milk stations. About 150 took such courses annually. During the past three years the State agricultural college has educated this class and the students are filling the positions in creameries all over the State. Many of these boys could not have taken a full college course before entering on the dairy work and would have sought in some other State the special education they wished. President Nichols holds that they should have a better general education before taking up these short courses. The other side argues that these boys will not take the college course and it is better to keep them in Kansas than to allow them to go to other States.

Governor Stanley in his message last winter asked the legislature to take action on the tendency of the State schools to overlap each other in their work, but nothing came of it. The agricultural papers are taking up the fight and promise to make it very interesting.

When he was West last summer the Secretary of Agriculture, Mr. Wilson, intimated that with greater specialization there could be given considerable extra government appropriation to the college, making it a central experiment station for this and adjoining States. This, too, is used as an argument by the advocates of a farmers' school.

A Farmers' Fight.

CORRESPONDENCE KANSAS CITY JOURNAL.

Shall practical agriculture hold first place in the curriculum at the Kansas State Agricultural College, or shall it be relegated to the rear to make more room for physics and the other sciences.

Those in favor of keeping agriculture to the front have taken up the cudgel and before the matter is settled, unless it is settled their way, there will be a shakeup at the agricultural college which will make the troubles under the Populist management fade into insignificance.

The KANSAS FARMER is leading the fight. Backed by the agricultural element of the State, which, in reality, is almost all the State, including all the prominent and influential farmers, it is attacking the manner in which things are being shaped at the college. It claims that the purpose for which the college was founded is being lost sight of and insists that the management should come back and run the institution on original principles.

Governor Stanley realized that the different State educational institutions were drifting from their moorings and last winter, in his message to the legislature, he called attention to the fact, and urged that some steps be taken to curb the tendency of each institution to overlap into the work intended for the other. At that time he called attention to the fact that it was originally planned for the science of agriculture and the mechanic arts to be taught at the agricultural college. He also told what the university was supposed to teach, and also the State normal school. But the legislature paid no attention to the suggestions and took no steps to check the overlapping.

Seeing that the administration could not remedy the growing practice the KANSAS FARMER decided to take up the fight. Being the official organ of the Kansas farmers, it felt more competent to straighten out things at the agricultural college than at the other two

State educational institutions, so it is devoting its attention to the Manhattan school.

It has a hard task on its hands but it will probably succeed for its fight is the farmers' fight and when once they get aroused they will right things or know the reason why. The FARMER is handicapped on the start by the fact that the majority of the members of the board of regents are not farmers. They are doctors, school teachers, editors, and the like. Only 2 members know anything about practical agriculture—Senator Stewart and F. D. Coburn. Then again the president of the institution, Prof. E. R. Nichols, is not versed in the science of agriculture. He is a professor of physics and a good one. But as for agriculture he makes no pretensions of knowing anything about it. Thus, in its fight to get the college back to "first principles," the KANSAS FARMER has the opposition of a majority of the regents and the president of the institution, but it is predicted that it will finally win. The people of the State will rise up and demand that agriculture be kept at the front, and, if the present management fails to heed the ultimatum, then there will be a new management.

No charge of bad faith on the part of the management is made. Ignorance of the true purposes of the founding of the college and the environments of those in charge are given as the excuse for the diversion.

The FARMER states the case thus:

"The people of Kansas are an intensely practical people. They believe to the fullest extent in education that is of practical use. They expect the agricultural college to be the best and biggest institution of its kind in the world, and that it will not have to take second place as to any feature of its work. They do not want it to be a weak imitation of a university, nor to be a second-rate or even a first-rate academy. The young men and young women of Kansas are entitled to the best and strongest agricultural college that can be provided, and in this State of farms and farmers it is important to emphasize the word 'agricultural.' This department of both the college and the experiment station should be the prominent and distinguishing feature.

In thus urging the advancement of our already great agricultural college, and experiment station to the front rank, personal interests of the workers in the institution have not been considered. If present incumbents are the best that can be secured for the compensation available, the regents are to be congratulated on their success in this regard. If the means at command can be made to secure the services of better talent, more energy, or greater industry in any department, it should be a guiding principle that nothing is too good for the Kansas Experiment Station, and the young men and women who will make the State's future. If making prominent the agricultural department seems likely to give any one man undue prominence, a division may be made to equalize distinctions. But that the peculiar features required by the most advanced conception of a real 'agricultural' college and experiment station should be made conspicuous is demanded by the interests of the farmers of this State of farmers, and by the needs of young men and women, the brothers and sisters of those who are making Kansas famous in every place they have entered."

Much Wheat on Small Area.

Sam Bethers, of Pollard, Rice County, writes to the Rice County Eagle: "After reading Secretary Coburn on the wheat product of Kansas the thought occurred to me to inquire: How much of that amount our school district, containing 7½ sections of land, contributed? As threshing is just completed and two machines did about all the work, it required but little inquiry to get the amount, machine measure, of each farmer in the district. It footed up 55,886 bushels of wheat that will test 60 pounds and upward, and will weigh out over 60,000 bushels. We know this amount will look big to many, but those who live in this part of Kansas will not be surprised.

"The population of our district is 129. I think it is estimated that it takes 9 bushels on an average to bread us a year, which would take 1,161 bushels. So, if we had to live to eat all we raised this year it would take us over forty-eight years."

Put your stomach, liver and blood in healthy condition and you can defy disease. Prickly Ash Bitters is a successful system regulator.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

- October 8-10, 1901—American Berkshire Association Sale at Kansas City.
October 25, 1901—National Galloway Sale at Kansas City, under the auspices of the American Galloway Breeders Association.
November 21, 1901—Ernst Bros., Shorthorns, Tecumseh, Neb.
November 20-22, 1901—National Hereford Exchange, East St. Louis, Ill. (Sotham management.)
December 10, 11, and 12, 1901—Armour-Funkhouser, Herefords, Kansas City.
December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.
January 28 to 31, 1902—Sotham's Annual Criterion Sale at Kansas City.
February 25-27, 1902—C. A. Stannard and others, at Kansas City, Mo., 200 Herefords.
March 25-27, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)
April 23-24, 1902—National Hereford Exchange, Kansas City, Mo. (Sotham management.)
May 27-29, 1902—National Hereford Exchange, Omaha, Neb. (Sotham management.)
June 24-26, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)

The Sheep Situation.

Prof. C. F. Curtis, of the Iowa agricultural college, is quoted as follows: "The American people have been characterized as a nation of pork eaters and pork producers, with little or no appreciation of good mutton. However this may have been in the past, the conditions are rapidly changing. Perhaps the recent depression in the price of wool is largely accountable for the readjustment and changed conditions; at any rate, there is a constantly increasing demand for good mutton in the United States. The Chicago market alone in 1894 took nearly a million more mutton sheep than during any previous year, and the receipts of 1898 are the largest on record. Notwithstanding the impetus of increased demand and good prices and the rapidly increasing population, the number of sheep in the United States is considerably lower than in former years. The average of the numbers on hand each year, January 1, from 1891 to 1895, inclusive, was 44,448,885, and the average of the number on hand January 1, from 1896 to 1899, inclusive, was 37,972,212. During the former period 2 Canadian provinces, Quebec and Ontario, sent to our markets 1,524,946 head of sheep, valued at nearly \$5,000,000. This importation of sheep from Canada still continues, notwithstanding the fact that a heavy duty is imposed, and that Canadian mutton is also made on higher priced feeds and lands than prevail in our own country. During the past year the number of sheep imported at Buffalo alone was 175,697, valued at \$574,882. We have also been importing \$25,000,000 to \$30,000,000 worth of wool annually during the recent years."

From the figures given we take it that Professor Curtis wrote the article a year ago or more. The facts to which he calls attention led us to an investigation of the subject presented, and the present unsatisfactory condition of the sheep market was another problem upon which we desired information. Several interviews with the best-informed sheep buyers at the stock yards in this city have furnished us some data which may be worth considering.

It is known, of course, among all sheepmen that the prices for lambs and sheep are comparatively low—the complaint is that they are so low that continued effort to raise sheep is not warranted, and breeders and feeders can't make any money from this class of live stock. The question naturally arises, Why are prices low? To which there are all kinds of answers—some entirely superficial, some locally sound, but nationally incorrect, and others indefinite.

In the first place it is the pretty well supported opinion of one sheep expert that present prices are indicative of a final settling down to a fair standard—that they are low in the same proportion that prices of a year ago were high. The latter were abnormally high prices. It was the existence of these high values which makes the present prices seem so low. The fact is that prevailing quotations are not unduly low, according to this authority.

One buyer said that the country could well support twice as many sheep as it now has. This would mean an increase of more than 250,000,000. The supply is not greater than the demand. Statistics show that the receipts of sheep at all points were larger for the half-year just closed than for the same period last year. The increase, for instance, at the Chicago yards was about 50,000 in round numbers. Similar gains were made at various other markets.

One factor which has perhaps been instrumental in lowering prices is the large number of lambs on the ranges. The Western country is abundantly stocked with them and everywhere



EYES SPEAK

Volumes, at times, of woman's happiness or misery. The dull, sunken eye, with its dark circles almost surely speaks of womanly ill-health, and its attendant suffering. With the dull eye goes usually the fallow, sunken cheek, the drawn mouth, the shrunken form—the whole glory of woman's beauty marred by the effects of disease.

Dr. Pierce's Favorite Prescription cures the diseases which undermine the health and mar the beauty of women. It establishes regularity, dries weakening drains, heals inflammation and ulceration, and cures female weakness.

Sick women are invited to consult Dr. Pierce by letter free, and so obtain the advice of a specialist upon their disease. All correspondence is strictly private and sacredly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y.

"With pleasure I send a few lines to let you know that I feel much better than for eight years before taking your medicine," writes Mrs. Pierce Geise, of 822 West Phila. Street, York, Pa. "Will recommend Dr. Pierce's medicine to every person who may inquire as to what it has done for me. I was troubled with female weakness, and began to think I would never be well. If I had continued the treatment prescribed by my doctor I don't know what would have become of me. When your treatment was commenced my weight was 108 pounds, at present it is 130. Have healthy color and my friends say I look well. My best thanks to you and my best wishes, too, for what you have done for me."

"Favorite Prescription" makes weak women strong, sick women well. Accept no substitute for the medicine which works wonders for weak women.

Dr. Pierce's Pleasant Pellets cleanse the clogged system from accumulated impurities.

DIP MOORE'S HOG REMEDY and cure Mange and Canker, kill Lice and Fever Germs, remove Worms and PREVENT CHOLERA, at a cost of FEED Five Cents Per Hog Per Year. A postal gets particulars and book on "CARE OF HOGS." Address MOORE CHEMICAL CO., 1503 Genesee Street. - - Kansas City, Mo.

NO SPAVINS The worst possible spavin can be cured in 45 minutes. Carbs, splints and ringbones just as quick. Not painful and never has failed. Detailed information about this new method sent free to horse owners. Write today. Ask for pamphlet No. 12. FLEMING BROS., Union Stock Yards, Chicago, Ill.

WORK THE HORSE IF NECESSARY BARMOLINE NATURE'S WONDERFUL HEALING SALVE. CURES SORE SHOULDERS, COLLAR GALLS, SCRATCHES, CRACKED HEELS, SITFASTS, CHAFES, ROPE BURNS, WIRE CUTS, SORE TEATS, OLD STANDING SORES AND ALL FLESH WOUNDS ON MAN OR BEAST PREVENTS FLIES, MAGGOTS, SCREW WORMS AND PROUD FLESH. ALL DEALERS 25 and 50 Cents SEND 4c FOR TRIAL SIZE TO B. H. DENNY, P. O. STATION A, DENVER, COLORADO. ENDORSED BY HORSEMEN EVERYWHERE

Goulding & Co., City Stock Yards, DENVER, COLO., Jan. 10, 1900. DEAR SIR:—After an experience of over twenty years in the care & handling of live stock, I feel justified in recommending your Balmoline as the BEST HEALING SALVE that has been put on the market. Horsemen and others cannot make any mistake in it's use. GEO. L. GOULDING.

Employment That Pays is offered to Women, Men, grown Girls and Boys in the vicinity of their homes by our Subscription Department. We give liberal compensation; the most generous terms ever offered. Prompt reply secures a desirable and permanent position as our special authorized representative, with exclusive rights. Previous experience desirable, but not necessary. FRANK LESLIE'S POPULAR MONTHLY, for years a leader among the best 10-cent illustrated magazines for the home, is stronger, brighter, better than ever. Articles, Stories by famous writers; illustrations by well known artists. Outfit free to persons accepted as agents. Write us a postal to-day and name two references. This is an opportunity too good to neglect. FRANK LESLIE PUBLISHING HOUSE, (Founded 1855) 141-147 Fifth Ave., New York.

there has been a general increase in breeding. Many small farmers embarked in the sheep business on a small scale when the prices of wool and mutton were high, and they are still in the business, contributing their individuality small, but collectively large, quotas to the market.

One reason why Colorado lamb feeders lost money last year on their lambs is because they paid too much for them—bought them on the basis of the preceding year's prices. In other words, they exhibited bad judgment. The lamb feeder must know pretty well what the price of lambs is going to be before he buys them as feeders. In many instances feeders sold fed lambs for considerably less than the purchase price.

The decline in the price of wool has, of course, had something to do with lower prices for sheep, but figures show that the decline has affected both shorn and unshorn in about the same proportion.

As to the future values, the opinion among sheepmen seems to be that a gradual settling down is to result. Some look for a still greater decline. All think it wise to stick to the sheep business despite temporary adverse conditions.

From A. C. Halliwell's daily Live Stock World, published at the yards, we find that the top price in June, 1900, for sheep was \$5.50 and the average \$4.55, while for the same month in this year the top price was \$4.50 and the average lower than the 1900 average by about 75 cents.

The importation of sheep from Canada has included large numbers of breeding stock while Buffalo has been a natural market for Canadian mutton sheep. We do not necessarily consume Canadian mutton simply because it is sold at Buffalo. It is probable that we consume no more of Canadian mutton than Canada consumes of our native mutton.

A great many sheep raisers will likely quit business as a result of present market conditions, but a large majority of them will take good advice and stick to it. In time a general adjustment will take place and a firm foundation will be established. Those who continue in the business will enjoy the benefits which logically will follow.

About all that can be said of the present situation is that prices are not high enough for those who have learned to expect none but high prices.

Don't be discouraged. Better times are coming for the sheep raisers.

If you have marketable stuff remember that in a long series of years the man who sells a thing when it is ready for market is uniformly successful.

What did the swine growers do when they were compelled to sell top-notch stuff for \$3.20? They sold at that price, of course, but they didn't quit raising hogs.

What did the horsemen do when they found choice animals going at from \$50 to \$75? Well, some of them quit, but others stuck to the horse-breeding business. And what are good horses worth to-day?

Moral: Stick to your business, Mr. Sheepman.—Farmers' Voice.

Tebow Lawn Herd of Shorthorns.

The greatest herd of beef cattle of uniform type in this or any other country is the unanimous opinion of every visitor is Colonel Casey's Tebow Lawn Herd of Shorthorn cattle. No other breeding establishment of pure-bred beef cattle has been so conspicuous in the public eye in the advance movement of improved stock for 1900 and 1901.

The Tebow Lawn Herd is at the home farm of Col. G. M. Casey, which comprises 25,000 acres of splendid land at Shawnee Mound, Henry County, Mo.; located 10 miles north of Clinton, the county seat of Henry County. The farm is handsomely improved and thoroughly equipped for the breeding of Shorthorn cattle. Six hundred acres of the farm is fenced into a deer park, which contains 300 deer; in another park of 40 acres there are 5 buffalo, 2 elk, and a West-Highland cow, which will be sold to make room for the show and sale stock.

The management of this notable establishment is in the hands of that old-time breeder and authority on Shorthorn lore, Mr. E. M. Williams, formerly of Kansas. The herd numbers less than 200 head of pure-breds, all ages.

The herd bulls now in service are all notable animals, the latest acquisition is Alice's Prince, which stands at the head of the herd (see quotation from Breeders' Gazette). He will be shown this season only. Alice's Prince is assisted by Imp. Blythe Victor 140609, bred by W. S. Marr, calved April 8, 1898,

sired by Golden Victor (70542), dam, Blythesome 16th, by Wanderer (60188); second dam, Blythesome 9th, by William of Orange (50694). He is beyond all question a first-class show bull. He is a bull of immense substance and flesh and smooth all over. He is 3 years old and weighs 2,500 pounds. A close measurement around the heart girth shows 8 feet 9 inches. This bull in ring this fall will make a deal of trouble for all comers. Calves by him are of great promise though quite young. Great things are expected of him as a breeder. He has been used quite extensively on the Casey mixture, and this cross will result in the production of a class of cattle that everybody will want.

Admiral Godoy 133872, calved March 9, 1898, bred by C. E. Leonard, was sired by Godoy 115675, first dam, Ravenswood Scotch Duchess 6th, by Imp. Barbarossa 68197. He is an American-bred bull, bred by one of our very best breeders and is a credit to any breeder on either side of the water. He is indeed a wonderful bull, of the greatest scale, yet smooth and highly finished. He is a great favorite. He was 3 years old last April and weighs 2,600 pounds. A few calves have come by Admiral Godoy and they are beauties.

THE "CASEY MIXTURE."

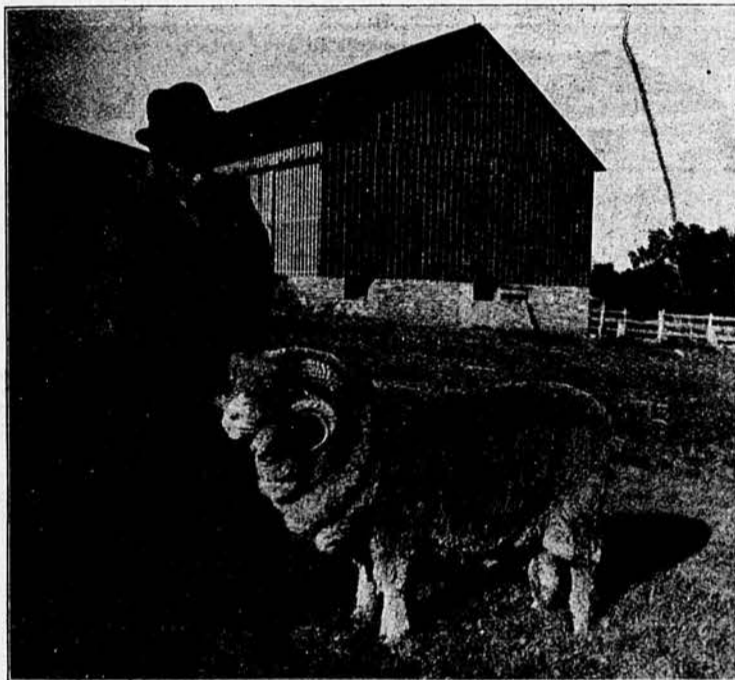
We have been asked by a large number of breeders, what is "Casey's mixture?" We will now attempt to answer that question. In the first place they

ered. What magnificent fronts they have, how full and perfect they are behind the shoulder. Then look at those splendid and well-filled udders and you know you stand before the best combined beef and milk producer in the world.

The herd bulls in service in the herd before the present one were Geneva Lad, a roan, his sire costing \$1,500. Colonel Casey states he was a first-class show bull and took many premiums at local fairs in Missouri. He was a bull of splendid scale, weighing in ordinary condition 2,300 pounds. Colonel Casey says that he was his ideal of what a bull ought to be.

Cambria Duke was also a fine show bull and Colonel Casey attributes much of whatever excellence his cattle may possess to the use of this bull and his wonderful son, Governor Sayers. The bull, Cambria Duke, did not come into the herd until he was 5 or 6 years old, and Colonel Casey regrets very much that he did not own him in his younger days. He kept him until he died.

The next bull was Geneva's Oxford, out of Rosette 4th. This cow, Rosette 4th, is yet considered by Colonel Casey to be the best cow he ever owned. He has neither bought nor seen any cow, that, in his opinion, was her equal. She produced for him 2 bulls, Geneva's Oxford, by Oxford Barrington, and Governor Sayers, by Cambria Duke. Colonel Casey says that he would gladly pay



M'KINLEY NO. 10.

A Prize-Winning Dickinson Delaine-Merino Ram, Bred and Owned by J. N. Grau, Asherville, Mitchell County, Kansas.

consist of about 60 head of Shorthorn cattle that have been bred by Col. G. N. Casey for more than twenty years. In the second place it is perfectly safe to say that no breeder now living, either in America or Great Britain, can show a better lot of cattle of his own breeding. In fact, many who have seen the "Casey mixture" are much inclined to place them at the very top. They are certainly a very beautiful and attractive herd of cattle and we can say to all lovers of fine cattle that it is worth traveling a thousand miles to see them in their entirety. To thoroughly appreciate them you must see them all. Such wonderful uniformity is seldom seen in any herd. A prominent breeder and a very discriminating judge who visited the herd with us, said, "how did you get such uniformity, such a striking family likeness?" He asked the manager, Mr. Williams, if they were inbred. He replied, "Not at all." In no sense of the word were they even line bred. The manager then went on to state that when he first looked at the herd, about a year ago, he was profoundly impressed with the wonderful and striking similarity that existed in this herd, knowing from an investigation of the pedigrees that there had been no inbreeding and nothing like line breeding. And that after a careful investigation into all the causes that might have produced it he could come to but one conclusion and that was, that it was the work, the splendid and enduring work, of a man of the highest order of ability, a man of genius. And in this view of it we most heartily concur. Look at the heads and horns, fit models for the greatest artists in stone or on canvas, but models which they can but imperfectly imitate. Look at the broad, level backs, see how evenly and smoothly they are cov-

at this time \$3,000 for a bull as good as either of them.

Governor Sayers was a very large bull, weighing when in fine condition, 2,700 pounds. He was, in the opinion of Colonel Casey, by far the best bull he ever owned. He was used on all the cows of the herd and their pedigrees disclose this fact.

The next bull was Neptune of Willow-Lodge, bred by Thomas Schnell, of Canada. This bull was a splendid bull and a splendid breeder. He was the sire of many of the celebrated Casey show steers.

Baronet 3d was a bull of fine size and fine finish. He very closely resembled his illustrious grand sire, Imp. Baron Victor. This bull was sired by Baron Lavender 3d, the sire of Col. C. E. Leonard's great show bull, Lavender Viscount. Manager Williams thinks that he did as much or more good than any other, as his get are invariably top notchers.

ADDITIONS TO HERD IN 1900 AND 1901.

- Mar. 8, 1900—At J. R. Crawford & Son's Sale, Newton, Iowa.
- Bashful 4th.....\$ 945
- Nonpareil of Meadow Lawn 2d..... 825
- Nonpareil of Meadow Lawn 5th..... 800
- Nonpareil of Meadow Lawn 6th..... 400
- Duchess of Surrey..... 500
- Hortense of Bonnbrae..... 345
- April 3d, at F. A. Edwards Sale, Webster City, Iowa.
- Golden Lassie..... 2,000
- 26th Linwood Victoria..... 1,075
- Lavender Countess..... 1,200
- Oakland's Queen..... 500
- Kirklevington Belle..... 200
- Georgiana of Bluffview..... 300
- May 17, 1900—At T. J. Wallace's Dispersion Sale at Kansas City.
- Rosedale Violet 9th..... 750
- Princess Violet..... 600
- May 23—At G. L. Gerlaugh's Sale, Osborne, Ohio.
- Imported Clara 58th..... 1,100

MILWAUKEE PEOPLE

Could Hardly Believe It. A Prominent Woman Saved From Death by Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM:—I suppose a large number of people who read of my remarkable cure will hardly believe it; had I not experienced it myself, I know that I should not.



MRS. SADIE E. KOCH.

"I suffered for months with troubles peculiar to women which gradually broke down my health and my very life. I was nearly insane with pain at times, and no human skill I consulted in Milwaukee could bring me relief.

"My attention was called to Lydia E. Pinkham's Vegetable Compound; the first bottle brought relief, and the second bottle an absolute cure. I could not believe it myself, and felt sure it was only temporary, but blessed fact, I have now been well for a year, enjoy the best of health, and cannot in words express my gratitude. Sincerely yours, SADIE E. KOCH, 124 10th St., Milwaukee, Wis."—\$5000 forfeit if above testimonial is not genuine.

Such unquestionable testimony proves the power of Lydia E. Pinkham's Vegetable Compound over diseases of women.

Women should remember that they are privileged to consult Mrs. Pinkham, at Lynn, Mass., about their illness, entirely free.

Imported Bessie 51st..... 1,525
Imp. Marengo's Lavender Countess.... 900
Aug. 6, 1900—At W. D. Flatt's (of Canada) Sale at Chicago.

Imported Mayflower 5th..... 2,600
Oct. 18—At National Shorthorn Sale at Kansas City, Mo.

Secret Sonsie 3d..... 380
Lavender of Hill Farm 15th..... 900
Poppy of Peabody 10th..... 380
Primrose May 2d..... 300

Bulls Secured in 1900.

Imported Collynie (rented of Hanna & Co., Howard, Kans. one year)..... 1,000
Imported Bapton Marquis..... 2,000
Imported Blythe Victor..... 850
Admiral Godoy..... 500

In 1901.
At the Robbins-Wornall Sale at Kansas City, Mar. 5.

Princess Flora..... 625
Silene 2d..... 800
Third Rosamond Flower..... 610
Mar. 6—D. K. Thomas' Sale at Kansas City.

Lady Washington 23d..... 200

May 12—T. R. Westrope, South Omaha.
Sweet Violet 2d..... 3,705
Golden Abbotsburn..... 1,400
Victoria of Pine Valley 2d..... 510

Mar. 29—B. O. Cowan's Sale at Kansas City
Mysie 53d..... 700
Aug. 7—At the Harding Sale, Chicago.

Imp. Village Belle..... 1,065
My Hannah Lady..... 1,000
Belinda 2d..... 880
Lavender Queen..... 575

At the Close of Harding, at Private Sale.
Alice's Prince..... 2,750
Aug. 18—A. A. Wallace, Bunceton, Mo.

Balliant..... 750
52 head selected from T. J. Wallace & Son, John Barker, amounting to...20,000

Total amount of purchases in 1900 and 1901.....\$49,545

A recent issue of the Breeders Gazette has the following concerning this herd:

Things at the famous Tebow Lawn stock farm, owned by Col. G. M. Casey, Shawnee Mound, Mo., are in the finest condition and the best bloom generally of any time within its history. "Tebow Lawn has become famous for the "Casey mixture" Shorthorns. This mixture was made by judicious selection of the animal best suited to Colonel Casey's trained eye. For over thirty years he paid little attention to pedigree; he would buy the very best Shorthorn bull that money could procure, regardless of how or where he was bred. That the "Casey mixture" thus propagated has been a success goes beyond question. Every lover of good cattle who has witnessed this common sense process has admitted that the results are far more gratifying than most sanguine expectations. Of late years Colonel Casey has, in addition to his very large feeding operations, endeavored to establish a herd of Scotch Shorthorns along with the Casey mixtures. Be it remembered all the while that first

and last Colonel Casey wishes to be known as "a steer man." No man having shipped...

Table listing names of breeders (Victor Abbott, Scottish Lavender, etc.) and corresponding prize amounts.

every bushel of it was graded No. 1, and tested 63 pounds. If any farmer in the West...

Advertisement for Malleable Iron Range Co. with image of a stove and text: 'AT WHOLESALE PRICES!'...

Gossip About Stock.

Several Kansas breeders were visitors at the Missouri State Fair last week. Among those noticed...

Albert Dillon, of Hope, Kansas, reports the sale of a car-load of three-fourths and seven-eighths Hereford heifers...

This is a world of change. For many years the Linwood Farm herd of Short-horns, owned by U. S. Senator W. A. Harris...

In this issue we present a good picture of McKinley No. 10, the head of the Dickinson Delaine Merino flock, owned by J. N. Grau...

D. Trott, of Abilene, Kansas, writes: 'Pigs in the Ash Grove herd are being fed for growth and usefulness. They are coming along in nice shape...'...

By referring to the report of the Missouri State Fair it will be noticed that our new advertiser of Duroc-Jersey swine, Mr. Harry Sneed...

We call attention to the new advertisement of W. P. Harned, of Vermont, Mo., who has about 25 bulls from twelve to eighteen months old...

M. L. Somers, owner of Sunnyside Poland-Chinas, Altoona, Kans., reports swine conditions as follows: 'Our herd was never in better condition. We have a fine lot of gilts that we shall breed for sale during the winter...'...

Are Your Kidney's Weak?

Mr. A. S. Hitchcock, East Hampton, Conn. (the clothier) says if any sufferer from kidney, bladder or kindred diseases will write him he will tell them what he used. He is not a dealer in medicine and has nothing to sell or give, just directs you to a simple home cure that does the work.

When writing to advertisers, mention Kansas Farmer.

Colonel Casey has attended and topped the leading sales of Scotch Shorthorns for the past two and one-half to three years; \$2,500, \$2,600, \$3,705 are prices he has paid for the best things. He has a twofold purpose in buying this class of cattle. One is to compare them with the 'Casey mixture', and another is to maintain a Scotch herd...

To a KANSAS FARMER representative, Manager Williams said: 'People must not think that they must be millionaires in order to be able to buy cattle at Tebo Lawn. We have only first-class bulls for sale...'...

It is indeed a rare treat to visit Tebo Lawn Herd. All are made welcome. Any one desiring any information about this great herd should address, E. M. Williams, Manager, Shawnee Mound, Mo.

A Glowing Report.

The Department of the Interior, at Ottawa, has just received the following letter which requires no comment. It is only necessary to state that the writer of the letter is one of the most prominent of the Duncards and a man upon whose word the utmost reliance can be placed:

To my many friends: We visited the territories of Alberta, Assiniboia, and Saskatchewan, and found there far surpassing our imagination. The soil of Canada, as a rule, equals if not excels the finest prairie farm lands of Indiana.

Western Canada offers as fine opportunities for mixed farming as any place in my knowledge. The long, sunshiny days, together with the rich soil, produce very fine wheat, oats, barley, flax, and other cereal products. There is scarcely any attempt to raise corn, except early varieties for table use.

Canada offers a fine opening for a young man or a man who is renting land. One hundred and sixty acres of good black land will cost you only \$10 at the time you enter it, and by plowing and cultivating 5 acres each year for three years, gives you 100 acres of good land for \$10.

Regarding the winters, the people never suffer from the cold, as the weather is dry and invigorating, and in many places farmers and herders allow their stock to run outside the year round.

I visited Thomas Daley, a farmer near Edmonton, Alberta, who showed me oats he had raised, some of which took the first prize at the Paris Exposition last year. The same yielded 110 bushels to the acre in 1899.

Does Advertising Pay?

William C. Smith, manager Modern Mexico, writes us as follows: 'We are sending you a letter to show you the long life of advertising. The advertisement appeared in your columns just six years ago this month.'

Our publication office was removed from Topeka to St. Louis, and from St. Louis to New York, and the letter answering the advertisement, has followed us to both of these cities. -New York, September 12, 1901.

J. C. Miller, manager of 101 Live Stock Company, writes: 'We wish to express to you our satisfaction at result of our ad in your last edition. From all parts of Kansas, and from other States as well, letters are reaching us referring to our ad, and the article on wheat in your last issue. In our wishes to reach farmers of Kansas and Missouri, we are satisfied that your journal is the proper way to do it. We expect to issue a corn seed ad in early spring, and will certainly call on you. It may interest you to know that on September 5 we shipped 5 carloads of seed-wheat from Winfield, Kansas, where we had stored it in elevators, to Texas points. The Kansas grain inspector at that point inspected and'

Colonel Casey has secured from Messrs. Harding the great Alice's Prince, which they recently purchased of Mr. Barber, a show bull of no mean metal and a breeder of show stuff beyond any question. A beautiful 2-year-old heifer that will be exhibited from Tebo Lawn is Princess Violet by this bull and out of Rosedale Violet 9th, which is also the dam of the most thickly developed bull calf we have ever seen.

Imp. Collynie, recently leased of Messrs. Hanna, Howard, Kans., at \$1,000 per year rental, will soon be returned to his owners. The famous bull secured in Ohio at the Gerlaugh sale, Imp. Blythe Victor, has thickened much during the past year, and at 3 years old is practically a 2,500-pound bull, with shortness of leg, thickness of body, great padded back and loin seldom found. His heart girth is 8 feet 9 inches. He is assisted by that beautiful son of Godoy, known as Admiral Godoy, which as a 3-year-old weighs 2,565 pounds and measures 8 feet 10 inches around the heart.

The show herd is to be exhibited at the Royal Show at Kansas City in October and the International at Chicago in December. It will consist of 50 head in all, 35 pure-bred and 15 2-year-old high-grade Shorthorn steers. It will be the greatest single display of Shorthorns, or in fact of any beef breed, ever made in America.

THE 1901 SHOW HERD.

The steers are the finest the writer ever saw. At Kansas City they will compete for the \$500 prize offered by Strahorn, Hutton & Evans, a Kansas City live stock commission firm, for the best car lot of grade steers. The American Shorthorn Association agrees to duplicate this offer, making the aggregate prize \$1,000.

Table listing names of bulls (Alice's Prince, Imp. Blythe Victor, etc.) and their ages and weights.

Brain Markets.

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

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

How It Is Done. We give below a regulation as amended June 18, 1901, governing commission and brokerage of the Board of Trade at Kansas City, Mo. Farmers should read it carefully and preserve it for future reference. It shows the business regulation of great successful enterprises. The regulation is as follows: Board of Trade of Kansas City, Mo. Secretary's Office.

Regulation 9 as amended June 18, 1901, governing commissions and brokerage.

Regulation 9. a. The following commissions shall be charged on all consignments of grain. Wheat, rye, barley, or flax-seed, 1 cent per bushel; corn and oats, 1/2 cent per bushel; mill stuffs, \$5 per car; seeds of all descriptions, except flax-seed, 1 1/2 per cent. Commission for buying and shipping grain of any description on order, not less than 1/2 cent per bushel. Commission for buying and selling for future delivery, 1/2 cent per bushel. Provided, that one-half these commissions may be remitted to active members of other recognized exchanges, resident and doing business on such exchange. Where the actual grain is delivered the regular commission on consignments shall be charged. Regular brokerage charge \$1 per car, and a grain broker to be defined as one who buys and sells grain not for his own account, but as the agent of principals, and where the names of the principals are announced in the making of the contract, and the broker at no stage of the transaction becomes the actual owner of the property. Purchases of grain in the country by any member of the Board of Trade for the account of any other member of the Board of Trade, or for any firm or corporation who may be represented by a membership in the Board of Trade, shall not be considered as a brokerage business, but must be handled as regular consignment business. In case of trading between members of the Board of Trade, one-half of the regular commission may be remitted, except on future trading, on which the following scale shall apply buying or selling, giving up the name of the principal before the close of the market, per 5,000 bushels, 50 cents. For buying and selling, closing the trade and clearing the same day per 5,000 bushels, \$1.50. For buying or selling, applying the off-setting trade to the principal through the clearing house per 5,000 bushels, \$1.50. For buying and selling and clearing, when carried for more than one day, per 5,000 bushels, \$3.12 1/2. A fine of \$100 to \$500, at the discretion of the Board of Directors, shall be imposed for the first offense and expulsion from the Board of Trade for the second offense (with no alternative on the part of the Board of Directors) of any member of the Board of Trade who may himself or whose firm or corporation of which he may be a member or employe, be found violating these rules in remitting any such commission by refunds, rebates, allowances to railroad agents, or in any other manner.

Purchases of consigned grain by the consignee after its arrival and sale with the object of defeating the above rules shall be considered only a subterfuge and punishable as above. Any member as above described who shall be found guilty of offering to violate these rules by proposing to remit commissions in any manner whatsoever shall be considered guilty of cutting commissions and punished as above. In all cases where fine is imposed, member shall stand suspended from the privileges of the exchange until that fine is paid, and the member reinstated by the Board of Directors.

E. D. BLOLOW, Secretary.

Advertisement for PILES with text: 'TRIAL TREATMENT FREE. We will forfeit \$50 for any case of Internal, External or Itching Piles...'...

The Home Circle.

MY GARDENS.

Pale lilacs will I plant
In my heart's garden,
And rosemary and rue
In my heart's garden,
Bright daffodils for spring,
And hare-bells which shall ring
Old chimes, dear thoughts to bring
To my heart's garden;
An oak tree strong shall grow
In my heart's garden;
The ivy green shall cling
To dead hopes, covering
The ruin wrought, my King
In my heart's garden.

Sweet violets shall grow
In my mind's garden;
No evil deeds shall stay
In my mind's garden;
Thought-wildings fair though frail,
Pure lilies of the vale
Their fragrance shall exhale
In my mind's garden.
Bloom old-world asphodels
In my mind's garden,
And poet's primroses
In my mind's garden.
In shamrock sweet enshrined
Shall eglantine be twined
With dream flowers both combined
In my mind's garden.

White lilies will I plant
In my soul's garden,
And one Rose mystical
In my soul's garden,
The myrrh of suffering
In censers rich to swing
Shall come all hallowing
From my soul's garden.
Life's fadeless flowers must bloom
In my soul's garden;
The dew shall softly fall
In my soul's garden;
The hawthorn white shall glow,
An altar-cloth of snow,
With globe flowers fringed below,
In my soul's garden.
—L. A. C., in Leisure Hours.

THE MAN OF THE WEEK.

Charles V. Riley.

(Born September 18, 1843; died September 14, 1895.)

Twenty-five years ago the farmer knew very little about the entomologist and his work. It is also probable that he cared very little. To-day the situation is different. Of the scientific friends of the farmer, none are better known for genuine usefulness than the entomologist. Meantime the once despised student of bugs has acquired a new name—he is an "economic" entomologist, or he is a stranger to the farmer. Entomology is no longer a science to be promoted or studied for its own sake; its standing, at least from the farmer's point of view, depends upon its service to agriculture.

The economic entomologist can point to results; he can say with emphasis that his profession pays its way; that it justifies its existence by real service that can be measured by a standard which all men understand; that it has saved millions upon millions of dollars to the cultivators of the soil. So the economic entomologist has come to be a man of dignity and importance. He does not feel slighted when he is called a "bugologist." He knows that "bugs" are commoner than most people like to confess and that the man who can find a new way to fight an old bug is bound to be appreciated. So the entomologist holds up his head, and we respect him for his worth and for knowing it.

The name of Charles V. Riley epitomizes the history of economic entomology in the United States. When the story of his life and work has been adequately told, the history of economic entomology in the nineteenth century will have been written with reasonable fullness. The merest outline of his career can not fail to be instructive. He was a worker and a winner. He did things and did them well.

Though born in London, Riley's early youth was spent some 15 or 20 miles from the place of his birth at the little town of Walton-on-Thames. Here his education was begun. After his eleventh year he studied at Dieppe, France, and Bonn, Germany, and in his seventeenth year came to the United States. He then knew the three greatest living languages in which modern science is written—English, French, and German—and was prepared to be a useful laborer for three years on an Illinois farm. To the wide-awake, keen-eyed student these were profitable years. He had become interested in insects, and here he could study them in their native haunts. He began to write for the agricultural papers. In 1863 he went to Chicago to become one of the editors of the *Prairie Farmer*. A year of editorial work was followed by six months of service as a soldier in an Illinois regiment. Out of the army he returned to his editor's desk. Entomology had become his passion. His studies and his practical observations had made him the best equipped man in the world for the opportunity that lay before him. He was a man with a mission.

Missouri is not supposed to be one

of the most progressive of States; yet Missouri was the fourth State to appoint an official entomologist, and her authorities were wise enough to invite Riley to organize the work of the new office. He accepted the appointment and began his new duties on April 1, 1868, publishing his first annual report in December of the same year. An original man in a new field, Riley could not but publish instructive reports. Of Riley's Missouri Reports Dr. L. O. Howard, the present entomologist of the Department of Agriculture, has written as follows:

"Riley's 9 reports were monuments to the State of Missouri, and more especially to the man who wrote them. They were original, practical, and scientific. * * * Their value to the agriculturist, as well as to scientific readers, was greatly enhanced by a remarkable series of illustrations, which were drawn by the author and engraved upon wood by the most skillful wood-engravers of that time."

When the great grasshopper plague of the middle seventies caused Congress to establish the Entomological Commission in 1877, the successful work done in Missouri pointed to Riley as the man to be placed at the head of the commission. Five valuable reports were published by this body. In 1878 Mr. Riley was appointed entomologist of the Department of Agriculture, an office which he resigned at the end of a year, only to accept a reappointment two years later; after which he retained the position until June, 1894.

The period of Riley's public services witnessed the great development of the practical science of entomology. The people had learned to appreciate the work of careful students of insects; governments had been taught the great value of their services; and the new science of economic entomology had earned the right to be recognized as one of the chief aids to agriculture. And C. V. Riley had been the leader in all the work that made for the progress of his favorite science.

One of Riley's triumphs was the introduction from Australia of the lady-bird that saved the orange and lemon groves of California from the Ravages of the white scale. "This one insect," says C. L. Marlatt, one of the most competent of the younger entomologists, "saved the State its citrus industry, or the equivalent of many millions of dollars." A dozen years ago Prof. W. A. Henry described the fight against the scale insect as "the best stroke ever made by the Agricultural Department at Washington."

But this is only an example. The fight against the San Jose scale was hardly less brilliant in the early years, although it had to be renewed under new conditions after the insect was carried from California to Eastern States. It is not yet forgotten that the French government decorated Mr. Riley with the cross of the Legion of Honor for his services to the vine-growers of France. The "Riley nozzle," which its inventor would not patent, was of great service to fruit-growers, being the first really successful spraying device offered to the public. These, also, are only examples of Mr. Riley's great services to agriculture. Let two estimates of the man and the scientist be added:

R. Fream, in the *Journal of the Royal Agricultural Society of England*, described Mr. Riley as "the greatest agricultural entomologist of our age;" and L. O. Howard, in a recent conversation with the writer, characterized him as "the founder of our new economic entomology; a man of the broadest scientific knowledge and of the most perfect ability to apply his knowledge practically; his work placed American entomology foremost in the world in this branch of science applied to agriculture."

Denver, Col. D. W. WORKING.

When writing to advertisers, mention *Kansas Farmer*.

Coffees
"Coated"

with stale eggs, glue
and other things are
not fit to drink.

Lion Coffee

is pure, uncoated
coffee—fresh, strong,
well flavored.

The sealed package insures uniform quality and freshness.

"Let the GOLD DUST twins do your work!"



There are more clothes rubbed out by using soap than are worn out.

GOLD DUST

washes clothes better and is much less expensive than soap. It does not injure the most delicate fabric and requires only half the labor that soap does. It will clean pots, pans, dishes, floors, furniture—anything about the house.

Send for our FREE booklet, "Golden Rules for Housework."

THE N. K. FAIRBANK COMPANY.

Chicago, St. Louis, New York, Boston.

The Modern Machine Shop.

"As compared with the old-time shop, with its incessant clatter and din," said a shop superintendent, "the modern machine shop might almost be described as noiseless."

"You used to hear in such places a constant rattling of wheels and a more or less continuous pounding. Now you might go through a big shop from top to bottom and never hear a hammer stroke. And instead of a general jangle of sounds you would only hear a smooth, uniform hum; a noise, to be sure, but not half so much in volume as that heard in the old-time shop, and actually musical as compared with it. All this is due to vastly improved modern methods of work and enormously improved modern machines."

"In old times they used to chip and file all flat surfaces. You can imagine what sort of racket such work as that must have made. Then we got the metal planer, which did the work better and, of course, at far less cost and which gradually did away with most of the chipping and filing. The planer can screech some now; but that doesn't begin to make the noise it used to, and the noise it does make is not to be compared with that of the chippers and filers."

"The old-time gear wheels were far more rattly and noisy than those of today. Extensively used in machine shops in one way and another, such wheels were formerly all cast. Nowadays gear wheels for use where such accuracy is desirable, are made by automatic gear-cutting machines, which cut the teeth on them with mathematical accuracy. Such wheels as these are themselves beautiful productions of machine tool work; and when they come to be brought to use they make, of course, with their perfect form and their nice adjustment, one to another, far less noise than the old-time ordinary cogged-wheels."

"Another common source of noise in the old-time shop was found in the pounding of work of any sort that was to be turned on arbors in the lathes. There is nothing of that sort, or next to nothing, done in machine shops nowadays, that is, in the shops with modern equipment. Such work is pressed on the arbor, noiselessly, with a compound screw; or by hydraulic power; or by steam power; the work being pressed off the arbor, when finished, in like manner."

"In old times when they wanted to cut off a bar of steel they used to send for the blacksmith and his helper, who would come in with sledges and chisel and pound away at it. Now they would send such a bar to the cutting off machine and have it sawed off, with no noise at all."

"Hack saws, of course, are old, but

nowadays there are used for sawing metals in machine shops, lots of power hack saws; these save a great deal of time, and incidentally, sparing the shop a whole lot of cold chiseling and hammering.

"In short, the work in machine shops is nowadays more and more of it being done by wonderful labor and time-saving automatic machine tools that are comparatively noiseless in operation; and, in handling the work, power is brought more and more into use, and used more and more noiselessly; and so, with these improved methods and appliances, the modern machine shop is far less noisy than its old-time predecessor."—New York Sun.

One Thing Coming.

"I was in the newspaper business once myself," laughed the portly party. "When I left college I decided that nothing but journalism would cater to the strenuous life that I proposed to lead. In looking over the situation, I realized that the eastern field was too cramped for my swelling ambition; so I decided upon the free and boundless West as the only spot where my budding genius could properly expand unhampered by the conventionalities of the effete East."

"Well, I found a small town in the West where there was no paper, and proceeded at once to fill a long-felt want. Soon after I had established my great molder of public opinion a lynching took place, and I felt that the situation called for a few burning words upon the subject. The result was a two-column leader, wherein I handled the outrage without gloves. I can not now recall what I said except the end, which read something like this: 'Gentlemen, think twice before you again drag the name of our beautiful and future great city through the mud.'

"The edition containing my inspired and burning words was hardly issued when I had a call from a delegation of my fellow-citizens."

"What can I do for you, gentlemen?" I asked, realizing that I was facing a condition, not a theory.

"We've kim yere," said the spokesman, "to inform you that we don't take no shine to that thar article of yourn 'bout lynchin'. Our first impression was to bring a rope along with us; but we remembered what you said 'bout thinkin' twice; so we've jes' called to let you know that we've had our first think. We'll be yere again to-morrow."

"I took the hint and the first train out of town."—Detroit Free Press.

If your food does not digest well, a few doses of Prickly Ash Bitters will set matters right. It sweetens the breath, strengthens the stomach and digestion, creates appetite and cheerfulness.

The Young Folks.

RUTH.

I walked beside the ribboned corn
One sacred, silent Sabbath morn,
The soft wind in the branches stirred,
I heard a single fluting bird.
And far away o'er stream and tree
The distant church bells chimed for me.
And back from childhood's mist and dream
There came a dear and radiant dream.
I know not why, this day, in sooth
My thought should stray to that fair Ruth
Who in the barley harvest's sheen
Still walks, still bends the ears to glean,
Still in the dusk of glimmering dawn
Flits homeward e're the dusk be gone,
And in Naomi's locking clasp
Finds hope and joy within her grasp.

But it is Ruth I seem to see,
Sweet, slender, lissome, beckoning me
To that still time of childish bliss,
Earth's dearest thing, my mother's kiss,
When in a Bible worn and old,
But worth far more than gems and gold,
We little ones on Sabbath day
Would read the stories, spell our way
Through Abraham and Isaac down
To David's deeds of great renown
And find no lore in all the books
So sure to wake delighted looks
As those old Bible stories did,
Between those leathern covers hid.

Ruth and Naomi, deathless pair,
Your voices touch this mountain air;
A vision of you, age and youth,
Naomi grave and smiling Ruth,
Unto my eyes to-day is borne
Here, by these fields of waving corn.
—Margaret E. Sangster, in Christian Intel-
ligencer.

A Sermon on Success.

CHARLES AUSTIN BATES, IN IMPLEMENT
TRADE JOURNAL.

Text: Seest thou a man diligent in his business? He shall stand before kings; he shall not stand before mean men.—Proverbs, 22:29.

How shall a young man succeed?
Don't dodge. I am not going to tell you "how I got my first thousand dollars." I am not going to deliver a lecture on morals, or on turning church membership into cash.

The point is one which concerns every employer and every employee. It is the practical, ever-present problem of giving and getting intelligent service.

Not all of us can get rich. Not every one can be a Russell Sage, or a James J. Hill, or an Andrew Carnegie, but all of us can better our condition.

If we are office boys, we can be better office boys, and when promotion time comes we will take a step up.

If we are salesmen we can be real salesmen, and our salaries will increase accordingly.

That is what I mean by success. Not very startling, is it? But only an employer knows how earnestly employers look for successful workers.

The head of one of the best houses in New York recently said to me: "The greatest trouble we have is to get intelligent junior clerks."

Every growing business has the same want. The trouble is to find some one worthy of promotion.

Business is too full of those who have "bad luck" and whose efforts are "not appreciated"—who are "not treated right." And most of them also "missed the boat," or "the clock was slow," or "wasn't hired for that," or "was perfectly willing to do it if you had told me."

They don't care whether they are handling books or bricks, and handle either badly.

The joy of being interested in their work, for the sake of the work, is not theirs. The satisfaction of clean achievement—of doing the thing right for the sake of doing it right—is an unknown sensation.

They work for six o'clock and six dollars.

They do not realize that the game of business is as interesting, and requires as much skill, as the game of billiards—and is more exhilarating, once one finds it out.

I know a carpenter—a friend of mine—who has absolutely declined to leave a job that I said was "good enough." He said "I can't leave it that way. It isn't right, and I wouldn't be comfortable."

My friend is never out of a job. I know a tailor who says: "No, you leave it another day. I can't let it go out like that." A pair of trousers is a work of art with that man and he is able to charge the highest price in New York.

I know a young man who was a three-dollar-a-week office boy only a short time ago, but everything he did was done so well that many things were given him to do. All days and all hours looked alike to him, and the doing of his task promptly and right was what chiefly concerned him. Now he has a responsible position and he is getting a little nearer the top every day.

And I know many incompetents—most of them have dropped by the way.

Incompetence is generally not due to a lack of brains or physical ability, but to laziness and vanity.

Competence is mainly a willingness to work and think.

Honesty has something to do with it—but no man who really thinks will be dishonest.

A good many people only think that they think. Others have thoughts that are warped—they can't think straight. They are handicapped by the idea that somebody is getting the best of them.

They waste time walling about the imaginary favoritism which advances some one else.

Too many do not know where they are going, and do not specially care.

They do not know whether or not they are profitable to their employer—and they do not specially care.

They do not study the business they are in—or any other business.

What shall they do to succeed? First—Think.—Second—work.

That will get them to wherever they ought and deserve to go.

The young man should study to learn why his work should be done as he is told to do it.

He should not be content to know simply enough to twist the wheel of a copying press. He should know just how hard to twist it, and how long, and how wet to make the blotters, to produce the cleanest copy of the letter. And he should learn why letters need to be copied.

That leads him to some other knowledge of the business.

Possibly he can suggest some simpler or safer way of handling the letters before, or after, copying.

That leads to a consideration of the filing system. That leads to thought of the letters received and their relation to the letters sent out.

That leads right into the heart of the business.

Is the young man a clerk in a wall paper store? The facts about the wall paper are interesting. Let him study them.

Years ago I asked a wall paper clerk how wall paper was made.

He said it was "made by machinery."

Luminous thought! Six dollars a week was too much salary for that boy. The making of wall paper is as interesting as a fairy story.

The acts and history of every business are entertainment par excellence, if they be considered as entertainment and not as labor.

Th other day a wagonmaker showed me a rack swung from his ceiling, where the air was driest. He said: "That stuff has been seasoning for eight years that I know of, and I don't know how long before. Some makers use kiln-dried stuff, but kiln-drying takes the life out of it." He told me many other things—all entertaining—all instructive—all good "talking points" for a salesman to know.

Does the grocery clerk who scoops out a pound of coffee know, or care, where it comes from, how it was roasted, what makes it good, bad, or indifferent?

It's a hundred to one he does not—and the one is the one who earns and gets promotion—who succeeds.

Every item in a grocery stock, or a hardware shop, or a clothing store, has a story of vital interest, and a knowledge of that story will help a young man to succeed.

Let him know the goods he is handling and the work he is doing. Let him study the goods and the work. Let him think how the handling may be simplified and the work made more effective, and let him submit his suggestions, in writing, to his employer or to the head of his department.

The main thing is that he shall be more interested in his work than in his neckwear—that he shall care less for his appearance than for what he accomplishes—that he shall understand once and always that honest, straightforward, continuous, earnest, and fairly intelligent work will win every time in spite of the trusts and all other obstacles.

[The boys from the farm win the greater percentages of successes than their fellows from town because they are preëminent in possessing the qualities described by Mr. Bates.—Editor.]

He Understood.

"A number of years ago," said the well-known attorney who was in a reminiscent mood, "I was called up into the northern part of the State on an important lumber suit. I was anxious to win it for a number of reasons, and I strained every nerve to get a verdict in my client's favor. I had every hope that I would succeed till the opposing counsel put an old backwoodsman on

the stand whose testimony was particularly damaging to my client's case. I believed then as I believe now, that the old man was lying, but to prove it was another matter, as he told a straight story and stuck to it; so I was rather discouraged when he was handed over to me to be cross-examined.

"You understand, of course," said I, "the solemn obligation of the oath you gave when you took the stand?"

"He merely grunted in reply.

"I suppose," said I, blandly, "that you understand the nature of an oath?"

"I guess I do," he growled.

"Well, give me an illustration of your idea of an oath," said I.

"I was totally unprepared for what followed. The old man shifted his guld of tobacco, took a firm grip on his chair and ripped out a string of oaths that threatened to raise the roof. It was simply awful. I have heard hard swearers in my life, but nothing to compare to that. The profanity he used would have kept a six-mule team on the jump for a week. His expletives were highly picturesque, abounding in fertility of invention and unlimited lung power.

"When the judge caught his breath he fined the fellow for contempt of court, and when I addressed the jury I made the point that he couldn't be believed under oath, and won my case. I could afford to be charitable, so I prevailed upon the judge to remit the fine against the old man."—Detroit Free Press.

Jackson and the Clerk.

A gentleman in Pennsylvania has a queer document which came into his family's possession many years ago, and shows an interesting phase of Andrew Jackson's character as well as a glimpse of the simple times of his presidential term.

It appears that a clerk in the State Department contracted a tailor's bill for \$64.50, and the tailor, finding himself unable to collect the amount, laid the matter before the president in an appealing letter.

Jackson promptly decided that this was a matter to which he must attend personally; so he transmitted the tailor's letter to the secretary of State, with the strong recommendation:

"Referred to the Secretary of State. If on inquiry the fact stated be true, unless the clerk pays up his debt let him be forthwith discharged.

"The Government would become a party to such swindling provided it permitted its officers to become indebted for necessities and not see that they paid their debts out of their salaries.

"Honest men will pay their debts; dishonest men must not be employed by the Government. A. J."

"This case is referred to Amos Kendall, Esq., on \$10 per month being secured to C. E. Kloff, Mr. Gooch to be continued in his office. A. J."

—Youth's Companion.

Don't Be Afraid to Work.

One thing that keeps young men down is their fear of work. They aim to find genteel occupations, so they can dress well and not soil their clothes, and handle things with the tips of their fingers. They do not like to get their shoulders under the wheel, and they prefer to give orders to others, or figure as masters, and let some one else do the drudgery. There is no doubt that indolence and laziness are the chief obstacles to success.

When we see a boy, who has just secured a position, take hold of everything with both hands and "jump right into his work," as if he meant to succeed, we have confidence that he will prosper. But, if he stands around and asks questions, when told to do anything; if he tells you that this or that belongs to some other boy to do, for it is not his work; if he does not try to carry out his orders in the correct way; if he wants a thousand explanations when asked to run an errand and makes his employer think he could have done the whole thing himself—one feels like discharging such a boy on the spot, for he is convinced that he was not cut out for success. The boy will be cured with mediocrity or will be a failure. There is no place in this century for the lazy man. He will be pushed to the wall.—Success.

Extension of Limit

on Buffalo Pan-American tickets via Nickel Plate Road. \$13.00 for round trip, tickets good 15 days; \$16.00 for round trip tickets good 20 days. Three daily trains with vestibuled sleeping cars and first-class dining car service on American Club plan. Meals ranging in price from 35 cents to \$1.00. Address John Y. Calahan, General Agent, 111 Adams St., Chicago (23)



BAD DICATION

PRICKLY ASH BITTERS

Imperfect digestion is more serious and far-reaching in its effect than is generally understood. This state of health is like an open gateway to disease because germs that may be in the air we breathe at once seize such an opportunity to attack the vital organs. They slowly undermine the strength and energy, and a collapse comes—usually at a time when a strong healthy body is most needed.

Is a fine regulating tonic which filters through the body, casting out injurious matter, stimulating the digestion and nourishing and strengthening every weakened part. It also purifies the blood, sharpens the appetite and creates energy. In this way it restores the system to perfect order.

For irregular bowel movements, chronic constipation, flatulence, belching, foul breath, and other troubles due to indigestion or obstruction in the bowels, Prickly Ash Bitters is a speedy cure.

SOLD AT DRUGGISTS.

\$1.00 Per Bottle.



HOT BLAST HEATER FOR COAL OR LIGNITE

THREE
SIZES
\$6.75
\$8.00
\$9.50

EMPIRE
STOVE
MFG. CO.
110 3rd AVENUE
MINNEAPOLIS
MINN.

HOT BLAST has 12-, 14-, and 16-inch fire pots. Send for Catalog which shows 26 different styles of ranges, cooks, and heaters at factory prices; every one GUARANTEED. We Pay Freight to Kansas City.

KANSAS FARMER.

Established in 1863.

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

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

SUBSCRIPTION PRICE: \$1.00 A YEAR.

E. B. COWGILL.....Editor
H. A. HEATH.....Advertising Manager



ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch).
Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.

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

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.

The New York Produce Exchange has just taken action to admit Kansas hard winter wheat No. 2 to delivery on contracts in that market.

A Savonsberg, Kans., subscriber wants some KANSAS FARMER reader with experience to tell him how to prevent worms from getting into fruit dried in the sun.

Hog values reached the \$7 mark in the Chicago market last week. Two loads of fancy 342-pound hogs sold for that amount, the highest price realized for hogs in September for many years.

The Missouri State Fair, held at Sedalia, Mo., last week, was quite a success for the first attempt. When will Kansas hold a representative State fair or exposition? Kansas is now the only Western State which lags behind in this particular.

William McKinley's death by the assassin's bullet is the third from this cause in the United States. Abraham Lincoln was shot at about the close of the great war of the rebellion by a partizan of the cause that had lost. His death caused the greatest consternation. Prompt punishment was meted out to the man who fired the shot and to those who in any way aided him.

cent instead of diabolical its methods are at variance with the perpetuity of free institutions.

THE PRESIDENT DEAD—THE COUNTRY LIVES.

President McKinley died at the hour of 2:15 last Saturday morning from the effects of bullet wounds received at the hands of the assassin, Czolgosz at the Pan American Exposition at Buffalo. The surgical operations performed were thought to have assured his recovery. Up to Thursday night confident assertions were telegraphed to the country that the President was rapidly recovering.

The report on the autopsy states that death resulted from gangrene caused by the shot through the stomach. The administration of President McKinley has been one of events of world importance. The war with Spain, the liberation of Cuba, the acquisition of Porto Rico and the Philippines were great events.

It is creditable to the nation that while nearly half of the voters registered their judgment in favor of different policies the people almost as one man have lifted their voices in praise of the fallen chieftain and have laid aside for the time their contentions as to whether his policies or those of the other party were best for the nation. It is felt that the hand of violence raised against the president is raised against every individual, every household, every institution.

The fact that the administration of the government devolves upon the strong hands of Theodore Roosevelt, a man who has never quailed before obstacles but has resolutely and ably performed every task to which his fellow citizens have called him, and the further fact that his views of governmental policy are in harmony with those of his predecessor will go far to allay feelings of alarm as to the immediate future.

ANARCHY.

Modern dictionary-makers have succeeded well in discovering and expressing the meanings of words as intended by those who use them. The "Standard Dictionary" defines anarchy as follows: "Anarchy, Absence or utter disregard of government; an unregulated and chaotic condition of society; social and political confusion and disorder; as, absolute monarchy is better than absolute anarchy."

Immediately after Leon Czolgosz had fired the two shots which resulted in the death of President McKinley, he stated that he was an anarchist and had done only his duty. The anarchists of the world have usually made their most noticeable demonstrations against the highest rulers of the lands in which they have operated.

Their philosophy appears not to justify these high-handed crimes. When an anarchist talks seriously he points to some exemplary citizen and inquires whether that man needs any laws to regulate his conduct towards the rest of mankind. He follows the answer by the assertion that criminals are the results of conditions and laws; that the anarchist would so modify conditions of society as to cease making criminals, and that laws and officers of govern-

ment would thereupon become unnecessary. Anarchists usually claim that acts of violence done to rulers by professed anarchists are the acts of persons who, while appreciating the advantages of a condition of society in which rulers are expected to be unnecessary and undesirable, have assumed that the removal of rulers would remove the necessity for their existence.

It is almost impossible to believe that any considerable number of people are in favor of a condition of society which must result from the absence of human government while the present propensities to do evil remain, or that sensible people can expect that the vicious will be reformed by destruction of the barriers to crimes and misdemeanors.

What are the workings of the anarchists organization? Some years ago the writer met a very gentle, mild-mannered, elderly man who seemed to know a good deal about the working details of the anarchist organization, of which the Nihilists of Russia were then the aggressive branch. From this man, who was long since lost sight of and whose name is forgotten, it was learned that there are several "circles" one within another. There was described a "circle" of propagandists whose mission was said to be to foment discontent with the present organization of society and to picture to the discontented the advantages of an ideal state of society in which all shall do right without fear or restraint of officers or law.

These details were drawn out in the mild-mannered old anarchist's effort to prove to the writer that the Czar of Russia could not possibly escape, and that the Russian government could not repress Nihilism. They have been forcibly brought to mind by recent events, not the least significant of which was the wish of a Russian anarchist in Kansas a few days ago that he had drawn Czolgosz's number, and by the remembrance of the fact that a young man who had been appointed to assassinate the King of Italy committed suicide rather than perform the task.

That such an organization is dangerous in the last degree need not be said. That it is the duty of the government to eliminate such organization from American soil is painfully apparent since the assassination of President McKinley. That the American people are ready to vigorously prosecute the work of elimination admits of no question. But that there is grave danger that the present enthusiasm may lead to the punishment of the innocent as well as the guilty is realized by persons high in authority. Should the eradication of a treasonable band of anarchists lead to curtailment of the liberties which have been won at so great cost and have stimulated the American people to greatness, the game might not be worth the sacrifice.

Another consideration of moment is the impotence of even despotism, unaided, to cope with the evil. The most despotic of civilized governments is that of Russia. Its repressive efforts in Poland have been charged with causing the rise of anarchy, and have certainly been ineffective in suppressing it. The Polander is the typical anarchist. He thinks that whether he is right or wrong, the authorities are against him. The history of his country must be confessed to give some ground for this belief which has become hereditary with the Polanders. Carrying his hatred of constituted authority with him to this country the Polander has taught it to his children and spread it among his fellow laborers.

Miss Jane Addams is devoting her life to lifting up the under world in Chicago. She stated a political axiom last week while at police headquarters to assist in arranging for attorneys for

some people who had been arrested, when she urged that the people be made to feel that the authorities are on their side when they are right, and against them only when they are wrong.

In the present enthusiasm to eliminate anarchy, a good many have assumed that the anarchist ought to be punished with or without observance of the forms of law. This doctrine is itself nothing less than a form of anarchism. If extensively acted upon, it may easily bring on reprisals and retaliation to the extent of chaos in society. Persons of property and persons of family may well pause before encouraging the idea that the citizen or the mob may without process of law punish offenders. The sanction and practice of such doctrine might easily produce anarchists faster than the hangman's rope and the state could dispose of them.

Anarchy can doubtless be eliminated from this country. To eliminate it will require the exercise of the severity of the law in a regular and orderly way, the suppression of violence whether against those suspected of anarchy or against other citizens, and by making it more than ever apparent through the public press and every other channel that the law and all legal authority are on the side of those who do right and against only those who do wrong.

Kansas and Her Alfalfa.

The past summer of diversified weather has served admirably to emphasize the desirability of growing alfalfa in the middle West, and also testified forcibly to its adaptability. The wonderful performances this year of this widely exploited plant have attracted attention anew to its worth, it having already yielded 2, 3, or 4 cuttings, and the stockman who was possessed of even a small acreage is in an enviable situation. The intelligent Kansas farmers, whose State far and away leads all others in alfalfa-production, are constantly bettering their conditions and chances for success by devoting larger areas to its culture, as is conspicuously indicated in official statistics compiled by the State Board of Agriculture. For instance, the first official notice was taken of alfalfa by the board in 1891, when the total returned was 34,384 acres; this year its field extends over 319,000 acres, showing the phenomenal increase in the ten years of over 828 per cent. Even when first considered of sufficient importance to be officially recognized as belonging to Kansas' repertoire of crops a canvass of the returns for that year (1891) shows that with the three exceptions of Atchison, Johnson, and Miami, each county devoted more or less land to its growth, Finney County leading with 5,717 acres; while the counties ranging between that number and 1,000 acres were Kearny, Chase, Cloud, Gray, Lyon, Saline, Sedgwick, and Wabaunsee, and of those claiming an acreage at all Linn was among the smallest, having 2 acres. Now, while not the foremost, Finney has 12,545, and Linn 261, and the 3 counties mentioned as having none in 1891, have a total of 621 acres.

The following table shows, according to their rank, the 26 present leading Kansas counties in alfalfa acreage, with their acreage for 1901 and also for 1891:

Table with 3 columns: Counties, 1901 Acres, 1891 Acres. Lists counties like Jewell, Butler, Norton, Finney, Chase, Republic, Mitchell, Phillips, Wabaunsee, Lyon, Sedgwick, Osborne, Greenwood, Smith, McPherson, Marion, Saline, Cloud, Kearny, Decatur, Pottawatomie, Cowley, Riley, Reno, Ottawa, Rice with their respective acreages.

This table is strikingly suggestive of the rapidity and extent to which merit alone has forced recognition of a very

Horticulture.

A New Fruit Package.

PROF. F. A. WAUGH.

The fruit package is one of the most important items in the fruit business. The fruit grower must be up-to-date in the matter of packages or he is behind the times on the whole affair of handling fruit. Much depends on a good package. It is a maxim in some markets that "the package sells the fruit." One ought to be careful about carrying that theory too far, but there is a good deal in it, nevertheless.

The newest and most interesting package in the American fruit trade is probably the so-called "six-basket carrier." This first came into extensive use in the Philadelphia and Baltimore markets about four years ago; but it did not become firmly established until it was taken up by the Georgia peach shippers. It proved to be peculiarly suited to their needs, and it is now frequently seen in all the Northern markets, at least those east of Chicago. According to my observation and information this package is not yet so well known in the West, but I feel sure that it is destined to be a favorite there.

The six-basket carrier consists of a crate approximately 14 inches deep, 14 inches wide, and 24 inches long. This is made of light slats nailed to 2 lightly framed end pieces. Inside this crate there are 6 small baskets without handles made of thin wood veneer, and each holding about a half peck of fruit. The entire crate, therefore, holds about 3 pecks, or a trifle over. The baskets are placed in the crate in two layers. First 3 baskets are put in and then a thin slat support is put on top of them, thus carrying the upper tier of 3 baskets without injuring the fruit below.

There are many advantages to this package. First, it is easily packed. Second, it carries the fruit in the most perfect condition of any package yet introduced into the general market. Third, it displays the fruit to great advantage when the package is opened in the market. Fourth, the little half-peck basket offers just about the quantity of fruit to tempt the average buyer. It is neat and handy to take home.

The six-basket carrier is used principally for peaches and plums, but is suitable for all fruits of that general nature. Mr. J. H. Hale has recently tried a slight modification of this package for shipping plums. He used 9 shallow baskets in 3 tiers in place of the usual 6 baskets in 2 tiers. Mr. Hale and many other shippers, especially in Georgia and North and South Carolina, use the same crate without any baskets for shipping muskmelons (which they persist in calling cantaloupes).

This package costs a trifle more than the old-fashioned peach and plum crate, or than the modern Delaware peach basket. The manufacturers have not quite settled down to a uniform price but \$10 to \$15 a hundred is about the present quotation. The fact that the six-basket carrier costs more will make some shippers hesitate about adopting it. Poor fruit will not pay for the most expensive package. The better display which the six-basket carrier offers in the market is small advantage to wormy, bruised, and rotting peaches. The carrier is, therefore, naturally a package for fancy fruit. It is especially desirable, too, for making long shipments. When it comes to shipping peaches from Kansas, Oklahoma, and Texas to Chicago and Denver, the six-basket carrier is sure to find favor.

Packing Apples.

In packing apples one of the first things to be considered is the boxes, writes H. Parkhurst in "Field and Farm." These should be neat and clean and should consist of 6 pieces only, including cover. They should be free from splits and knot holes and should be securely nailed with five-penny or six-penny nails. If the nails are driven in a slanting direction they will hold better. If one has many apples and wishes to pack for immediate shipment, a large packing table with a rim a few inches high should be placed in a convenient place in the orchard. This table should be covered with one or two thicknesses of cloth. The apples should be carefully picked and emptied upon this table, then placed in the boxes one by one by persons of good judgment and experience in the business, if they can be had. It takes more time and costs more to pack apples properly than to pick and bring them to the packing table.

With apples as small as the Whitney, I would simply face the boxes with one

or two layers at most, then put them in promiscuously, being careful to keep out all leaves and inferior fruit. To pack very small apples all one way is too much work and would not pay. Some varieties like the Wealthy vary greatly in size. About the best we can do is to grade them into two sizes, leaving out those that are too small and green. Then pack them carefully all one way, either stems down or on their edges. By doing this we can pack them closer, can get a few more in a box, they will carry to market better and when opened will look prettier and of course be more fragrant and taste better. In packing apples as large as the Alexander it is difficult to avoid getting the boxes too full or not quite full enough. Here comes in a chance for the full sweep of genius, skill and science.

In packing very large apples we sometimes put in a few small ones to wedge them in place and to stop the holes, but I understand that some dealers object to a single small apple in a box of large ones. Of course if they prefer holes to small apples, the fruit grower will feel in duty bound to send the holes along. In filling boxes we want to put in, as far as we can, as much quantity, quality, beauty, and fragrance as the boxes will hold, even though we may run some risk of offending our customers by so doing. I believe it would be well to wrap varieties as tender as the Yellow Transparent. When ready to nail on the covers it would be well to have a large block of wood 18 inches high and on this nail 2 narrow strips of inch board just far enough apart for the two ends of the apple box to rest upon. If the box is a little more than full, as it should be, when the cover is nailed on it will give the two sides of the box a chance to spring instead of one, and will therefore lessen the pressure on the fruit.

It would not be a bad idea to stamp the side of the box that is faced with the word "Face." The name of the variety should be stamped on one end, and when a grower sends apples to market that ought to take first premium at a fair, he will be very foolish if he is too modest to stamp his own name and address on one end of the box also. The covers nailed on, the boxes should be stood on end, then placed on end in the wagons that carry them to the station, and if the road is a little rough, a little hay placed between the rows of boxes will prevent them knocking together and bruising the fruit. They should be stood on end at the station and in the car, and should remain on end until they reach the dealer.

Hints on Vegetable Growing.

A. P. MEREDITH, IN AMERICAN GARDENING.

All celery intended to remain out any length of time should be earthed up pretty regularly to as near the top as is possible without blinding the heart. This is especially necessary if it is to stay out until after early frosts come, or to be lifted and put into celery houses. My experience has been that celery caught with early frosts suffers materially in keeping quality. Hence it should be packed up closely with earth to present as small as possible a top to the action of frost.

If it is impossible to dig it and place it in trenches or a cellar just at the proper time, the top can easily be covered over by some material in the way of salt hay, meadow hay, straw, or protecting cloth.

I have heard it remarked that light frosts will not hurt celery, but very light frosts have always hurt mine—both early and late varieties, blanched or not blanched.

Celery which it is desired to keep until April or May should not be blanched very much before storing, as it destroys the keeping qualities, but provision should be made that it can either be covered rapidly or lifted and stored. Many prefer it left in growing quarters, properly earthed up, protected by a board ridge to keep out wet from the hearts of it, and then thoroughly covered to keep out 10 or 15 degrees below zero.

Under those conditions it keeps remarkably well, becoming thoroughly blanched out and very crisp. But with this latter method there is one essential—do it in time and do it thoroughly. That means close attention to the weather—and to the celery.

Herbs which are required in a dry condition for winter use may now be cut and dried. Be careful not to tie in too large bunches or they are likely to become moldy and worthless.

After cutting hang up in some nice airy place, such as an open shed free



NATIONAL LEAD CO., Clark Avenue and Tenth Street, St. Louis, Mo.

IN PAINTING barn or house it is well to remember that Pure White Lead never cracks or peels, but wears away very slowly and gradually, perfectly protecting the wood from decay so long as a vestige of the paint remains upon the surface.

In repainting a building, if Pure White Lead is used in the first instance, no dangerous gasolene paint burner is required to put the surface in good condition for a new coat.

The brands of Pure White Lead manufactured by the National Lead Company, named in margin, are made by the "old Dutch process" of slow corrosion and are the best White Lead that it is possible to manufacture.

For any color or shade required, use NATIONAL LEAD COMPANY'S Pure White Lead Tinting Colors. Pamphlet sent free upon application.

J. G. PEPPARD, MILLET OANE
1400-2 Union Ave., CLOVERS
KANSAS CITY, MO. TIMOTHY
GRASS SEEDS.

SEEDS

from dust, where they can toughen and dry gradually, in preference to subjecting them to a dry heat, which simply parches them and causes them to lose their pungency.

Tomatoes of the small kinds, such as Yellow Plum, Pear-shaped and Red Cherry, when used for preserving, should be picked from now to the middle of the month. If left late they are hardly satisfactory, becoming very watery.

Martynia.—These pickled somewhat in the same way as walnuts are considered by some to be very fine. They should be picked while the pods are small and tender.

Plants should be looked over 2 or 3 times weekly, unless enough plants are grown to supply enough at once. That is hardly necessary, as they take up quite a little room.

As Medicine.

Asparagus is very cooling and easily digested.

Cabbage, cauliflower, Brussels sprouts, and broccoli are cooling, nutritive, laxative, and purifying to the blood, and also act as a tonic, but should not be eaten too freely by delicate people.

Celery is delicious cooked and good for rheumatic and gouty people.

Lettuce is very wholesome. It is slightly narcotic and lulls and calms the mind.

Spinach is particularly good for rheumatism and gout, and is also good in kidney diseases.

Onions are good for chest ailments and colds, but they do not agree with every one.

Watercresses are excellent tonic, stomachic and cooling.

Beetroot is very cooling and highly nutritious, owing to the amount of sugar it contains.

Parsely is cooling and purifying.

Turnip tops are invaluable when young and tender.

Potatoes, parsnips, carrots, turnips, and artichokes are highly nutritious, but not so digestible as some vegetables. Potatoes are the most nourishing and are fattening for nervous people.

Tomatoes, eaten either raw or cooked, are health giving and purifying.—Fruit-Growers' Journal.

A Healthy Voice.

A strong, sweet, beautiful voice is greatly to be desired for every one. In some climates, like Italy, for instance, the voices are almost all fine. In other places where it is cold and moist the voices are too often bad. In the country where the young grow up in an out-of-door life, where they can "holler" and even "yell," the voices are much better than in the city, where a young person must suppress himself and al-

ways speak in gentle tones. Thin, throaty tones or those with a nasal intonation are bad enough to the sensitive ear when used in the key of ordinary conversation. When it is needed to expand such voices to the declamatory point, then lack of volume and mellowness is evident.

Faithful practice may do much to correct faults of emphasis and inflection, but the most sanguine coach will not undertake to make over a poor voice in a course of three or even six weeks' rehearsals. The possibilities of the speaking voice are beginning to be understood. Parents are discovering that it is a wise plant to cultivate in their children an agreeable voice. Instructors in the art of developing the exquisite mechanism and wonderful capability of the human speaking voice are springing up on every side. It can not be long before it will be a positive reproach, for a woman of education, at least, to speak in shrill, nasal, or unplaced tones. The voice is a mirror of the mind. A coarse, harsh, disagreeable voice can best be cured by improving the mind and heart.—Health.

Kansas Fairs in 1901.

Following is a list of fairs to be held in Kansas in 1901, their dates, locations, and secretaries, as reported to the State board of agriculture and compiled by Secretary Coburn:
Butler County Fair Association—H. M. Balch, secretary, Eldorado; October 8-11.
Chautauqua County—Hewins Park and Fair Association—N. G. Marsh, secretary, Cedar Vale; September 25-28.
Harvey County Agricultural Society—John C. Nicholson, secretary, Newton; September 24-27.
Jackson County Agricultural and Fair Association—S. E. McGrew, secretary, Holton; September 24-27.
Miami County Agricultural and Mechanical Association—W. H. Bradbury, secretary, Paola; September 24-27.
Morris County Exposition Company—M. F. Amrine, secretary, Council Grove; September 24-27.
Ness County Agricultural Association—H. C. Taylor, secretary, Ness City; October 2-5.
Riley County Agricultural Society—R. T. Worboys, secretary, Riley; September 24-26.
Sedgewick County—Wichita State Fair Association—H. G. Toler, secretary, Wichita; October 1-4.
Sumner County—Mulvane Agricultural Society—John A. Reed, secretary, Mulvane; September 27-28.

GRAPE VINES
Currants, Gooseberries, Blackberries, Raspberries, Strawberries. Price List FREE.
Send 2c stamp for illustrated descriptive catalog.
T. S. HUBBARD CO. Fredonia, N. Y.

STARK TREES SUCCEED WHERE OTHERS FAIL.
Largest Nursery. Fruit Book Free. Result of 16 years' experience.
STARK BROS., Louisiana, Mo.; Danville, N. Y.

\$3 a Day Sure
Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work; absolutely sure; write at once. ROYAL MFG. CO., Box 658, Detroit, Mich.

Grange Department.

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

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

NATIONAL GRANGE.

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

KANSAS STATE GRANGE.

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

Our Subordinate Granges.

BY ALPHA MESSER, PAST LECTURER NATIONAL GRANGE.

The time has come in the history of the grange, in some sections of the country, when the question of organization is one of secondary importance. What most concerns those who have the best interests of the order at heart is how to hold the organizations we now have, and to keep them in active efficient work.

The grange is unlike most other fraternal organizations in its composition, and in the scope of its work. Again, its membership is composed almost wholly of a class of men and women who previous to the advent of the grange knew little or nothing of organizations and the duties, obligations, and responsibilities which they assumed by becoming members. Hence the greater difficulty of retaining the membership and sustaining the organization.

Another serious difficulty is found in the extremes of the tastes, habits, desires, and capabilities of the members. To meet these varying conditions and make the grange a permanent community home for farmers and their families, and to make it also a school of thought along social, economic, and non-partisan political lines requires an unselfish devotion to the interests of the order and rare judgment on the part of leaders. No exact rules can be formulated which will be applicable to every grange in the land, but there are a few general propositions which can be advantageously followed.

First, the membership should be made to realize—if they do not—that it is not a trival matter to belong to this organization and assume the duties and obligations which are incumbent upon every member of the order.

There is no good reason why the grange should not be as permanent an organization as the church, and no one thinks lightly of joining the church.

Second, there should be a readiness on the part of the members to do their part in the work of the grange.

Third, no member should be asked to do what is beyond the scope of his abilities.

Fourth, the members should not expect the officers to do all the work.

Fifth, officers should not be elected for life.

Sixth, the grange should have a home and when circumstances will permit, this home should be a hall owned by the grange, and all of the members should have some financial interest in the hall.

Seventh, extremes in frivolity or sedateness in the exercises should be avoided.

Eighth, avoid dissensions in the grange; bear and forbear. Fraternity has a deep meaning.

Ninth, open and close the grange on time, except on special occasions.

Tenth, improve the present, and build for the future.

Nature-Study.

BY HON. DELOS FALL, SUPERINTENDENT OF PUBLIC INSTRUCTION.

Speaking from the standpoint of a child's mental powers, the basis upon which must rest proper and successful methods in nature-study is that of sense perception. The child must gain all of his original notions through the use of his senses. Indeed, it may be argued that in all grades of study from the primary to and through the college, the first approach to any study should be, if possible, through the medium of sense perception. First ideas must not come through the medium of words, and so far as a teacher attempts to do his work in that way it is largely a failure. But it is most emphatically true of primary grades that unless the teacher uses every effort to make sure that pupils see with their own eyes, instead of merely listening and assenting to what is told them, all their subsequent work will be poor because built upon poor foundations. There is a duty here for teachers as well as for pupils.

The teacher must not ask for a book to tell him all about nature, but rather he must observe for himself, and by this spirit of observation and daily putting into practice before and with his pupils what he has acquired for himself he thus leads them to observe for themselves. In this way alone will the teacher be able to judge of the proper material and method of study. He can not stand aloft from nature and by means of what he has read in books be able to judge as to what will be a proper method or the best material for study. In a word, nature must be studied by the child from the child's standpoint and by the teacher with the children. It should be insisted that the sense impression which is produced upon the mind of the child should be as sharp and clear as it is possible to make it. Impressions are deepened by an examination which is thoroughly and carefully made.

It is not my purpose at this time to suggest what is the proper material of study. That could not be met by a single brief discussion of the subject but must be the result of a somewhat protracted preparation which the teacher must make for this work. In general it may be said that such material must be chosen which can best be seen by the pupil, that which will most vividly appeal to the senses of the child and that which recalls to him something which he has already seen. Then it will be impossible for him not only to add to his store of knowledge, but he will have a new basis from which he can take a step from the known to the related unknown. The imagination will be quickened and the materials and ideas gained by perception will be modified and brought into their right relations. If this is done, another end will be gained, one very vital to the final end which is to be attained by this, as by all lines of educational effort. The child will be filled with an interest in his work which can not be produced so well any other way. Without interest in his work, all that he does will be lifeless and unproductive, and its absence shows that something is radically wrong, either in matter or method. With an interest in his work, there is scarcely anything which he can not accomplish.

Clippings From the Grange Bulletin.

The wife of the farmer needs the grange for its sociability for an hour of rest and recreation; she needs the grange to meet with her and spend a social hour. The young men and women need the grange for sociability and education. There is no better school for them. In the grange they learn parliamentary law, the rules governing deliberative assemblies, how to present motions and resolutions, and how to discuss them, and to write essays.—Aaron Jones, Master National Grange.

If the first great object of the grange "To develop a better and higher manhood and womanhood," can be extended generally among the people, it will become one of the greatest powers in overcoming trusts and other evil powers that are to-day so great a menace to freedom. We must so educate as to place manhood above money. Let us all strive to have the grange measure up to this great work.

Conservatism is all right in its proper place, and when properly applied, but don't hinder the world's progress by being so much of a conservative, by sticking to the old ways, as to lean over backwards, and go backwards instead of forward. In other words, don't be a radical, or extremist in your conservatism. Don't lay back on the breeching, but pull, pull earnestly with your brother and neighbor to get the old world out of the ruts and on to the smooth and better ways and brighter days of the hour and age in which you live. The grange was organized to help pull. Now! All together.

The Ohio State Grange at its Akron meeting adopted the following resolutions:

"That we recommend the Ohio State University as a practical institution for the farmers' boys and girls of Ohio and well worthy of our patronage."

The hearty cooperation between the Ohio State Grange and the Ohio State University is as it should be. The College of Agriculture and Domestic Science of O. S. U., and the Order of Patrons of Husbandry has for its principal purpose of education the upbuilding of the farmers and their families. The order has shown in many ways that it believes that there is no better



Easy Harness

All harness, old or new, is made pliable and easy—will look better and wear longer—by the use of

Eureka Harness Oil

The finest preservative for leather ever discovered. Saves many times its cost by improved appearance and in the cost of repairs. Sold everywhere in cans—all sizes. Made by STANDARD OIL CO.

or surer way than through the education of the boys and girls. Every subordinate grange in the State should have, at least, one young woman and one young man from its membership taking a course in their college at Columbus. No more fruitful and inspiring subject could be discussed at grange meetings than the ways and means of bringing this about.

It has often been well said: "The grange is just what we make it." Farmers are invited to join the grange and entrust their interests to its keeping, not as passengers on board a luxuriously appointed train, having no relation to its movement except to pay their fare and be carried to their destination. Themselves and their precious interests will be carried safely, if the conditions of safety are fulfilled. These conditions require that every person upon whom a trust is devolved shall be faithful to that trust. On board the grange train, its members are not passengers alone, but engineers, brakemen, switchmen, and trackmen, as well. They run the train, as well as ride upon it; and, if it runs to wreck, they alone are responsible.

The grange has ever been on the side of reform. It has done and can continue to do good work in reforming, reconstructing, and purifying the fair, so that it will be a help and a credit to agriculture, and not as is now too often the case, a hindrance and a disgrace.

Confidence.

To succeed an individual must have confidence. Confidence in himself, confidence in what he is doing and in the ultimate success of his efforts. When he loses confidence, or faith, the end which comes in failure can be most surely predicted.

This same faith, or confidence, is needed by the members of an organization to carry it on to complete success. Where confidence in leaders, or in the organization, or its objects, is weakened, or lost entirely, then there is little effort put forth, little hope of success.

We must put heart, soul, faith, confidence in our work in the grange, in our leaders, in our order, and in each other.

Bro. C. G. Luce, past master of the Michigan State Grange and ex-governor of the State, has said:

"The first great lesson to be learned in cooperation is confidence in ourselves—confidence in each other, confidence in our order, and love for and confidence in our calling. If we entirely fail in this, we fail in all. This

Awaiting Settlers

Thousands of FREE Grant Homesteads (160 acres) in the Hard Wheat Belt of Manitoba, Assiniboia, Alberta and Saskatchewan (Western Canada.)

Experience shows that the lands of Western Canada are unexcelled for Grain Growing, Mixed Farming and Dairying. Railroads exist and are projected wherever settlement extends. Schools and churches convenient.

Taxes merely nominal. Climate the healthiest in the world. Crops always good, Wheat varying from 25 to 40 bushels to the acre. Oats 60 to 100 bushels, other grains in proportion.

CATTLE RAISING

more profitable than elsewhere on the Continent. Marketing produce at highest prices is particularly easy. Low Figures asked for lands adjoining Free Homestead Lands.

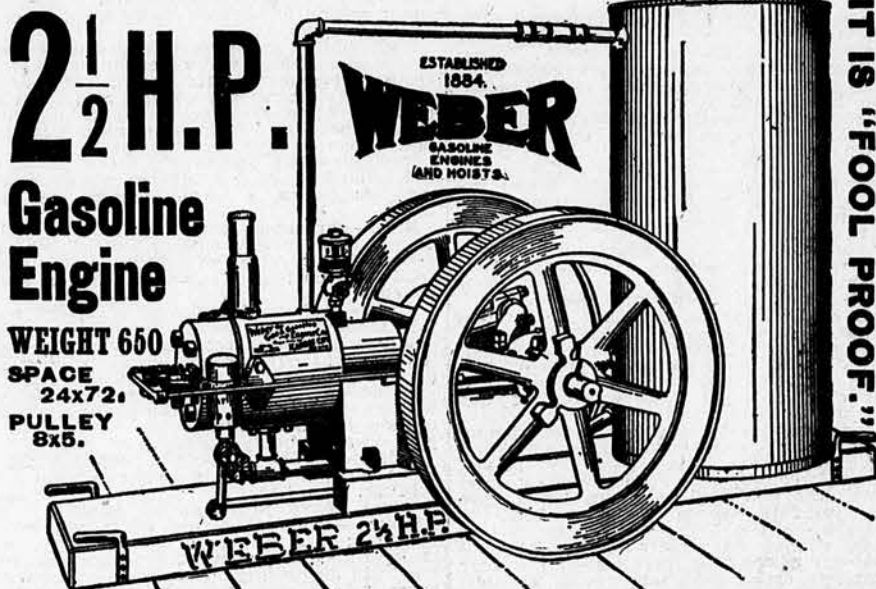
Write for pamphlets and copies of letters from settlers and delegates. Address F. Pedley, Superintendent of Immigration, Ottawa, Canada, or to

J. S. CRAWFORD,
214 W. Ninth St., Kansas City, Mo.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and, therefore, requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally in doses from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address: F. J. CHENEY & CO., Toledo, O. Sold by Druggists, 75c. Hall's Family Pills are the best.

kind of cooperation is not all embraced by membership, paying dues, or even attending the meetings of the grange; something even broader than this is required. The farmers of the whole land need cooperation more than any other portion of our people. In the very nature of our calling we are of necessity more isolated than others. It is needed for social improvement as well as for intellectual achievement. It is demanded for the protection of political rights. It is required by the highest and dearest interests of all."

CAN'T GET OUT OF ORDER.



2½ H.P. Gasoline Engine

ESTABLISHED 1884. WEBER GASOLINE ENGINES AND HOISTS.

WEIGHT 650
SPACE 24x72
PULLEY 8x5.

IT IS "FOOL PROOF."

Specially adapted for pumping, grinding and other farm use and for any purpose for which 2½ horse power or less is needed. It is simple, economical, reliable, and the price at which it is sold puts it in reach of every one. Fully guaranteed. Write for particulars.

Weber Gasoline Engine Co., Box 110, Kansas City, Mo.

In the Dairy.

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

Maintenance Ration for Cattle.

PRESS BULLETIN NO. 102, FROM DEPARTMENT OF DAIRY HUSBANDRY.

Experiment Station, Manhattan, Kansas, September 17, 1901.

On account of the probable scarcity of feed during the fall and winter of 1901-02, the Kansas Experiment Station undertook an experiment in feeding wheat straw and adding enough ground wheat to secure a maintenance ration. Three dry cows, averaging 1,225 pounds live weight, 2 two-year-old heifers averaging 1,059 pounds, and 3 calves averaging 510 pounds were selected for this test. The experiment began August 1, when the aggregate weight of the 8 head amounted to 7,327 pounds. As the cows came from good sorghum pasture and the heifers and calves from good prairie pasture, they did not relish the wheat straw for the first few days, and only consumed about 10 pounds daily per head. The cattle were fed 4 pounds of ground wheat daily per head throughout the experiment. By dampening the straw and sprinkling the grain on and through it considerable more straw was consumed, the average for thirty-one days being 16½ pounds daily per head.

At the close of the first week every animal in the experiment lost in weight, the average being 62 pounds per head. During the second week they regained a considerable portion of this loss. At the close of the experiment, September 1, the 3 cows weighed an average of 1,172 pounds, a loss of 54 pounds per head for the thirty-one days under experiment, the heifers averaged 1,067 pounds, a gain of 8 pounds per head, and the calves averaged 523 pounds, a gain of 13 pounds per head. The total weight of the lot at the close of the experiment was 7,217 pounds, a loss of 110 pounds for the lot, or 13 pounds per head, a small item when one considers that it all came in the first week of the experiment. The total feed consumed by the lot was 4,232 pounds of wheat straw and 992 pounds of ground wheat. The straw was hauled about 8 miles and did not contain any chaff or refuse wheat. Where the cattle have access to a straw stack they get considerable chaff and more or less shriveled or waste wheat blown over with the chaff. Under these conditions cattle would not need as much wheat as given above.

This experiment indicates the possibilities in wintering cattle. When wheat straw, doubtless the poorest roughage on the farm, can maintain an animal with a small outlay for ground wheat, it ought to encourage a farmer to hold his cattle. Straw is abundant, especially in the western part of the State. In many places it is being burned in order to get rid of it. Where straw can be had for the hauling and wheat at 60 cents per bushel, the feed cost of keeping a 1,000 pound cow on a maintenance ration need not exceed \$1.25 per month. Suppose the straw costs \$5 per ton, the feed cost would be only \$2.50 per head per month, or \$1.50 more than it usually costs in years when feed is plenty. Most every farm contains rough feed considerably better than wheat straw. Prairie hay, corn fodder, Kaffir-corn fodder, sorghum fodder, or hay can be fed either alone or in combination with each other and

DE LAVAL CREAM SEPARATORS

which possess the patent protected "Alpha" disc and "split-wing" improvements

Are as Much Superior to other Cream Separators as such other Separators are to Gravity Setting Methods.

Send for new "20th Century" Catalogue.

THE DE LAVAL SEPARATOR CO.,
74 CORTLANDT STREET, NEW YORK.

The EMPIRE Cream Separator

Is not a cheap machine. It is built under the most valuable cream separator patents in existence. The material used in its construction is the best possible to procure. The workmanship and mechanical finish is not excelled in any line of manufacture. It is not made or sold on a price basis. A good article is worth a good price. Purchasers of the Empire enjoy the benefit of its exceptional merit long after the price has been forgotten.



Does the business. It skims clean and turns easy. The bowl contains only a few parts with all flat surfaces, and is easy to clean. The bowl is exceptionally light and easy to handle. The mechanical parts are few and easily adjusted. It is not "the only" cream separator on the market, but it possesses many advantages found in no other. Our catalogue tells all about it. We want you to have a copy. Your address on a postal card will fetch it.

UNITED STATES BUTTER EXTRACTOR CO., Bloomfield, N. J.
WESTERN OFFICE, Fisher Building, Chicago. NEW ENGLAND OFFICE, Essex Junction, Vt.

the amount of grain required for maintenance reduced. Where red clover or alfalfa is available little or no grain need be fed.

The present low prices of stock cattle, with every prospect of high prices in the spring, and the cheapness with which the cattle can be wintered, as shown by the above experiment, should induce farmers to hold their cattle, even though they could be sold at fair prices. D. H. O.

Hand Separators.

G. C. CURRIER, BEFORE FARMERS' INSTITUTE AT GARNETT, SEPTEMBER 7, 1901.

Hand separators, the subject assigned me for the meeting, is rather a complex question, when you consider the differently constituted people into whose hands they are likely to come. My experience with a farm separator is that it requires a devotion that is seldom enjoyed by the average American farmer for in order to have any use for a hand separator you must have milk and in order to have milk the cow is necessary, and as an inducement to the cow to furnish the milk she demands your kindest and best endeavors twice a day, seven days in the week, and thirty days in a month. This becomes irksome and you sometimes find old Boss neglected when she is the main stay for the family support. The hand separator is of little value to a farm without the cow, and the cow is of little value to the farm without she is properly cared for. I have no suggestion to offer regarding the care of the cow. All who have cows know that when they are fed, watered, sheltered, and treated kindly, as they should be, they will do their part. An incentive for you to handle the cow as she should be handled, is good returns for your feed and care. This I think can best be accomplished with a hand separator, as from my experience I can safely venture the assertion that you will increase your return 25 per cent. The hand separator is a labor saving machine for the farm for instead of keeping in proper condition 25 or 30 crocks to be washed and sunned each day, you simply run the milk through the machine, and catch the skim-milk fresh and warm to be fed to your calves and pigs. The cream is taken from the machine in a 2-gallon bucket, which can easily be lowered into the well, or set aside for ripening as the conditions may require. You all know how troublesome it is during the summer season to care for any considerable amount of milk, in short hand separators will handle the milk of 15 to 25 cows with one-half the labor of the old setting system and produce 25 per cent more butter the year around. Again there are some abuses practiced with the hand machine when you are selling the cream to the creamery. Many are disposed to lengthen out the time between delivering their cream to the creamery; some put three, four, five days' skimmings together and deliver the varied lot of cream to the butter-maker and expect him to make first-class quality of butter for the market so he can pay first-class prices for

the butter fat in the cream. This can not be done. If you expect within 2 or 3 cents of the market for your butter fat you must furnish first-class butter fat for the butter-maker.

History of Milk Testing.

F. H. M'INTOSH.

For a great number of years it was a serious problem how to find an accurate way for testing milk or cream for butter fat. About the time the creameries were first being started in the State of Kansas most all creamery men were very ignorant about testing milk for butter fat, and for a few years paid their patrons by the hundred pounds. This did fairly well for a short time but finally some of the patrons that were inclined to be dishonest would dilute their milk with water, and in doing this they received the same pay for the watered milk that the honest patron did for his pure milk. And from this time on it was either a loss to the honest patron or to the factory. So the first step in testing milk or cream for butter fat was what is known as the churn test at the time of gathering or receiving the patrons' cream. A small sample (a pint or quart) of each patron's cream would be put into a small can and churned, and each patron was paid for his cream or milk according to the amount of butter his sample of cream made. This was a more just method than by weight, but it required delicate manipulations in order to make the little pats of butter. And besides the butter so made was of such inferior quality that it could not be mixed in with the whole amount of butter made from all the cream, and so in this way it was still a loss to the factory.

The oil test was an outgrowth of the churn test, and to a certain extent was successful. In making the oil test the samples taken from each patron's milk or cream was much smaller than those taken for the churn test. These small samples were taken and put into small glass tubes and the tubes were then put into a frame and agitated until the fat was drawn together in a solid mass, the tubes were then put into hot water until the fat was melted, when the fat would float upon the surface of the liquid in the tube. The tubes were then allowed to become cool. The portion of melted fat so obtained was taken as a measure of the butter value of the cream from which it was a sample. The oil test was used in cream gathering factories and was a fair measure of the butter fat in cream. But there was always a small proportion of the fat that remained unchurned in cream; and in milk a much larger per cent of fat was lost. For this reason the oil test was not successful for determining fat in milk.

In 1877, Mr. Marchand invented a long glass tube which was graduated at one end, a small sample of milk was put into this tube and a certain amount of acetic acid was added and thoroughly mixed with the milk, after which a small amount of ether was added to dissolve the fat. By heating the fat

it was collected into the upper part of the tube which was graduated and read off volumetrically. These tubes were used for a time with more or less success. In certain samples of milk it was difficult to get a good separation of the fat. And in milk produced from various feeds the results could not be relied upon. A few years later Professor Fjord, of Denmark, invented glass tubes a good deal like the ones used in the oil test, these tubes were held in a frame and a small measured amount of milk was put into each tube and the frame holding the tubes was whirled at a high rate of speed for forty-five minutes until the cream was continually separated and brought together into a mass. The solid mass of cream was then measured out and weighed with a scale and the weight estimated by a table, which was constructed by the inventor. This method was used to a great extent in Den-

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

U S U S

Do You Want the Best?

Then buy the

U. S. SEPARATOR

That is the kind that

GETS ALL THE CREAM

PLEASES ITS USERS

INCREASES THE PROFITS

REDUCES THE EXPENSES

Send for catalogues containing much information it will be to your interest to know if you are thinking of buying some other make.

226

VT. FARM MACHINE CO., BELLOWS FALLS, VT.

Notice to Dairymen

If you are thinking of buying a Cream Separator, write us or catalogue and information. We manufacture the best machine on the market.

DAVIS CREAM SEPARATOR CO.
88-90-92 W. Jackson St., CHICAGO, ILL.

mark, but never used in the United States.

From this time on several other inventions were made for testing milk, but none, however, were successful in every respect until the advent of the Babcock test.

Value of Natural Science in Butter-making.

BY M. H. MATTS.

In one sense of the word creamery butter-making may be termed a science and in another an art. This depends upon the way one looks at it either theoretically or practically. In any event a knowledge of the foundation of natural science will be a valuable aid to the practical butter-maker, and while it may not be absolutely necessary it would be highly beneficial. Of it we learn the composition of various substances, from the state of elements up to the more or less complex compounds, also the classes of elements and their action in nature. Individually and collectively we learn of their relation of one to another and this is very essential as for example, an acid will neutralize a base and vice versa. To understand the reaction taking place when this occurs, and the product or products that are found, will require a study of chemistry, a branch of physical science. There are many other terms, as solution, suspension, soluble, insoluble, analysis, etc., for which definitions can be found in any dictionary, but are of little value unless thoroughly understood. Under this head comes the action of heat and cold, attraction by gravitation, cohesion, capillarity, and density or specific gravity. An exhaustive study of fermentation is also necessary to the production of gilt edge butter.

It may be possible to learn the method of butter-making by first going to work in a creamery or butter factory, and after a brief experience there attend a dairy school at some agricultural college, or for an altogether inexperienced person, he could gain some valuable practice and information at a school of this kind directly. There are varying opinions in regard to these two ways; as for myself I would choose the former whenever it is possible. For those who can not attend such a school much information can be had by reading the leading or best dairy papers.

More Experience With Alfalfa.

Mr. W. Riehl, of Potosi, Missouri, sends a report of his experience with alfalfa during the present dry season. As the conditions in Missouri are somewhat similar to eastern Kansas this report is printed for the benefit of our Kansas readers.

"If you remember you gave me some points on alfalfa at Kansas City last winter, and I promised to report success or failure. We have not had 1 inch of rain in one hundred and thirty-five days and none in sight. Our soil is a good clay, with a limestone and some flint rock and gravel through it (Ozark Hills). I broke ground in February, (old pasture), put it in fine tilth, and sowed seed the last of April at the rate of 2 pounds to the acre. It came up fine and stood the drouth O. K., while every sprig of all other grasses soon disappeared. Alfalfa ranges from 6 inches to 1 foot high, and is plenty thick, and looks better now than a month ago. I think the roots have got down to moisture by this time. The roots are three times as long and also as bulky as the top and have a mass of fibrous roots. I sowed two and a half acres."

The Country's Crops Officially.

CORN.

The monthly report of the statistician of the department of agriculture shows the average condition of corn on September 1 to have been 1.7. There was a decline during August amounting to 2.3 points, and the condition on the 1st of the present month was 28.9 points lower than on September 1, 1900; 33.5 points lower than at the corresponding day in 1899; 31 points below the mean of the September average for the last ten years, and 8.3 points below the lowest September average, that of 1881, ever before recorded. While the August rains were beneficial to late planted corn, it is in only a few States that the crop as a whole shows any improvement or has even held its own during the month. There has been a decline of 13 points in Ohio, 8 in Indiana, 2 in Illinois, Iowa, and Texas, and 3 in Nebraska. In Kansas and Missouri the local gains and losses about counterbalance each other, and in these States the condition of the crop as a whole is

represented by the same figures as on August 12.

WHEAT.

The average condition at harvest of winter and spring wheat combined was 82.8, against 60.6 last year, 70.9 in 1899, and a ten-year average of 8.3. North Dakota, California, and Oregon report a condition 7 points, Washington 12, Indiana 16, Illinois 19, Missouri 22, and Kansas 28 points above their respective ten-year averages. On the other hand, the average condition in Iowa is 2 points, in Ohio and South Dakota 3, Pennsylvania 6, Minnesota and Nebraska 8, Michigan 22, and Texas 36 points below the respective ten-year averages of these States.

OATS.

The average condition of oats when harvested was 72.1, against 82.9 last year, 87.2 in 1899 and a ten-year average of 81.6. Of the States having the largest acreage devoted to this product, only Iowa and Minnesota report a condition comparing favorably with their ten-year averages, the former being 1 point and the latter 4 points above such averages. On the other hand, the condition of the crop in Ohio and Michigan is 3 points, in Illinois 7, in Indiana 8, Wisconsin 11, Nebraska 20, Kansas 21, New York 25, Pennsylvania 34, and Missouri 41 points below the respective ten-year averages of these States.

BARLEY.

The average condition of barley when harvested was 83.8 against 70.7 last year, 86.7 in 1899 and 83.1, the mean of the averages of the last ten years.

RYE.

The condition at harvest of winter and spring rye combined was 84.9, against 84 last year and 86.4, the mean of the averages of the last ten years.

BUCKWHEAT.

The average condition of buckwheat on September 1 was 90.9, as compared with 91.1 on August 1, 1901; 80.5 on September 1, 1900; 75.2 on the corresponding date in 1899, and 85.3, the mean of the September averages of the last ten years.

TOBACCO.

Since August 1 there has been a general improvement in the condition of tobacco. Virginia, Tennessee, Maryland, and Pennsylvania report conditions 1, 3, 9, and 10 points above their respective ten-year averages; in Kentucky the present condition and the ten-year average are equal; and in North Carolina, Ohio, Wisconsin, and Missouri the conditions are, respectively, 12, 13, 23, and 49 points below such averages.

IRISH POTATOES.

The average condition of potatoes on September 1 was 52.2, against 62.3 on August 1, 1901; 80 on September 1, 1900; 86.3 at the corresponding date in 1899, and 78.8, the mean of the September averages of the last ten years. The present condition is the lowest ever reported in September, being 10.2 points below that of 1894, the lowest previous September condition.

SWEET POTATOES.

There has been a general decline in the condition of sweet potatoes since August 1, although 5 of the principal States still show a condition equal to or above that of a month ago.

CLOVER.

The acreage of clover seed has been considerably reduced since last year, only 2 of the States in which the production of clover seed is of more than local importance, New York and Michigan, reporting even a small increase in acreage. All other States, except Nebraska, in which State the area is the same as last year, reported decreases ranging from 5 per cent in California and Ohio to 37 per cent in Missouri. In New York, Minnesota, and Michigan the present conditions are 1.7 and 17 points above the respective ten-year averages; but other States report conditions below such averages.

SUGAR-CANE.

Of the 5 principal sugar-cane States, Mississippi alone reports an improvement in condition during August, the present condition being 37 against 32 a month ago. The condition in Georgia remained at a standstill during the month, and Alabama, Texas, and Louisiana show decreases of 1.3 and 4 points, respectively. Three of the principal sugar-cane States—Louisiana, Georgia, and Mississippi—show conditions slightly above their ten-year averages, and in Alabama and Texas conditions are, respectively, 8 and 21 points below such averages.

RICE.

An improvement in the condition of

rice during the month of August is reported in but 2 of the rice-growing States—Florida and Texas. In Louisiana and North Carolina there has been no appreciable change in condition and South Carolina, Georgia, and Alabama report declines. In Louisiana, the chief seat of the rice-growing industry, the condition is 4 points above the mean of the averages of the last seven years.

APPLES.

Five of the more important apple-growing States report an improvement in condition during August, such improvement amounting to 1 point in Indiana, 2 points in Kentucky, 3 in Tennessee, 11 in Missouri, and 12 in Kansas. Only 3 of the States—Indiana, Virginia, and Kansas—report conditions above their ten-year averages, while the remainder of the States report conditions below such averages, ranging from 1 point in Kentucky to 42 points in New York.

PEACHES.

Reports as to the production of peaches, as compared with a full crop, in the important peach-growing States, range from 51 per cent in Texas to 76 in Tennessee, but 3 States showing an indicated production equal to or above that indicated in September, 1900. In all but 2 of the principal peach-growing States, however, a production exceeding the ten-year average is probable.

GRAPES.

In all the States in which the growing of grapes is of more than local importance, except California, the present condition is below the ten-year average.

HOGS.

There is a decrease in the number of stock hogs now being fattened as compared with the number a year ago in every State except Arizona, where an increase of 13 per cent is noted. In the important hog-raising States decreases in number for fattening are reported as follows: Georgia, 4 per cent; South Carolina, 9; North Carolina, 11; Mississippi, 2; Alabama and Indiana, 14; Ohio, 15; Iowa, 17; Arkansas, 18; Texas, Tennessee, and Illinois, 19; Kentucky, 27; Nebraska, 33; Missouri and Kansas, 42 per cent. Reports as to the size and weight of stock hogs indicate a condition above the ten-year average in but 2 States—Ohio and Pennsylvania—in each of which the present condition is 3 points above such average. The condition is below the ten-year averages to the extent of 3 points in Georgia, Illinois, Kentucky, and Nebraska, 5 in Alabama, 6 in Kansas, 7 in Missouri, Tennessee and South Carolina, 8 in Texas and North Carolina, 10 in Mississippi, and 14 in Arkansas. In Iowa and Indiana the present condition is practically the same as the ten-year averages.

\$13.00 to Buffalo Pan-American and Return \$13.00

via the Nickel Plate Road, daily, with limit if 15 days; 20 day tickets at \$16.00 and 30 day tickets at \$21.00 for the round trip. Through service to New York and Boston and lowest available rates. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. (22)

VARICOCELE

A safe, painless, permanent cure guaranteed. Twenty-five years' experience. No money accepted until patient is well. Consultation and Book Free, by mail or at office. Write to DOCTOR G. M. COE, 915 Walnut Street, KANSAS CITY, MO.

One word —

MACBETH — stands for everything good in lamp chimneys.

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.

Only \$45 California and Back.

That's the first class round-trip rate, open to everybody, from Topeka to San Francisco, via the Santa Fe.

Account General Convention of Episcopal Church.

On sale September 19 to 27.

Tickets good via Los Angeles and for return until November 15.

Only line under one management All the way from Chicago to California.

Only line for both Grand Canyon of Arizona and Yosemite.

Only line to California with Harvey meal service.

Write for descriptive literature.

Santa Fe.

Address

T. L. King,

Agent, A. T. & S. F. R'y, Topeka, Kansas.

WROUGHT IRON PIPE
Good condition, used short time only; new threads and couplings; for Steam, Gas or Water; sizes from 1/2 to 12 inch diameter. Our price per foot on 3/4 inch is 2c; on 1 inch 3 1/2c. Write for free catalogue No. 61
CHICAGO HOUSE WRECKING CO.,
W. 35th and Iron Sts., CHICAGO.

HANDSOME AMERICAN LADY, independently rich, wants good honest husband. Address **ERIE, 193 Washington Street, Chicago, Ill.**

\$66.00 THIS ELEGANT SURREY \$66.00

Strongly Built, Well Finished, Leather Trimmings, Leather Quarter Extension Top.

Signed Guarantee With Each Surrey. FREE—Our Catalogue of Farmers' Needs.

...Send for It To-day...

STIMSON & CO. KANSAS CITY, MISSOURI Station A.



LIGHTNING GAS ENGINE AND SCALES
KANSAS CITY HAY PRESS CO.
129 Mill St. KANSAS CITY MO

MARKET REPORTS.

Kansas City, Sept. 16.—Cattle—Receipts, 9,503; calves, 917. The market was steady to strong. Representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for shipping and dressed beef steers, western steers, and Texas and Indian steers.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Texas and Indian cows, western cows, and native heifers.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for native cows, native feeders, and native stockers.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for stock cows and heifers, and sheep receipts.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Chicago live stock including cattle, hogs, and sheep.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for St. Louis live stock including cattle, hogs, and sheep.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Omaha live stock including cattle, hogs, and sheep.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Kansas City grain including wheat, corn, and oats.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Chicago cash grain including wheat, corn, and oats.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for St. Louis cash grain including wheat, corn, and oats.

Table with columns: No., Ave. Price, No., Ave. Price. Lists prices for Kansas City produce including eggs and butter.

to, 19c; firsts, 16 1/2c; dairy, fancy, 16c; packing stock, 11 1/4c; cheese, northern full cream, 11 1/2c; Missouri and Kansas full cream, 10c.

Poultry—Hens—live, 6 1/4c; roosters, 18 1/4c each; broilers, 9c lb.; ducks, young, 6c; turkey hens, 6 1/4c; young toms, 5c; old toms, 5c; pigeons, \$1.00 doz. Choice scalded dressed poultry 1c above these prices.

Potatoes—New, \$1.35@1.45 per bushel in small lots; car lots, \$1.20@1.25; sweets, \$1.50@2.00 per bushel. Fruit—Apples, \$1.00@3.00 per barrel; peaches, 60@75c per four-basket crate; pears, \$2.25 per box; cranberries, \$7.50 per barrel.

Vegetables—Tomatoes, home grown, per half bushel, \$1.00; beans, 65@85c per bushel. Cabbage, \$1.00@1.50 per cwt. Onions, 85c@1.10 bushel in job lots; cucumbers, 50@75c per bushel crate. Melons—Cantaloupes, per standard crate, \$1.00@2.00; Rocky Fords, \$1.00@1.75 crate; watermelons, per dozen, \$1.00@2.50.

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 to try it!

CATTLE.

FOR SALE—Ten choice milk cows, mostly fresh, are registered Holstein Friesians. M. S. Babcock, Nortonville, Kans. NO FEED—Must sell part of my registered Short-horns. Good individuals, best of breeding. Prices cut to half. M. C. Hemenway, Hope, Kans.

HORSES AND MULES.

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

SHEEP.

SHEEP—For sale 50 high-grade Shropshires and ram. Exchange. Alex McCutcheon, Marquette, Kans. GRADE SHROPSHIRE and Merino ewes to put on shares. Bucks and wethers for sale. W. Leghorn roosters 50 cents. W. W. Cook, Russell, Kans.

FOR SALE OR TRADE—Four good Shropshire rams, and some choice grade Merino ewes. D. R. Gordon, Abilene, Kans.

REGISTERED SHROPSHIRE RAMS for sale. Fine, lusty fellows and well woolled. Also a lot of good ewes at drouth prices. E. S. Kirkpatrick & Son, Wellsville, Kans.

FARMS AND RANCHES.

The Cheapest Yet. 147 ACRES, 4 MILES EAST SARGENT, a railroad town, Texas County, Mo.; frame house, barn for 12 horses, cellar, cribs, smoke and hen house, garden, two springs, 1,000 bearing fruit trees, 72 acres timber, 50 acres cultivated and fenced; possession at once; price only \$800; \$400 cash. LOTT, "the Land Man," 900 New York Life, Kansas City, Mo.

FARMS—923 acres. Highly improved farm, 60 miles northeast of Kansas City, close to three good towns, black loam soil, abundance of pure water; \$90 per acre. RANCH—6,100 acres. Good grass, fine water, plenty improvements, located in southern Kansas; low price. No. 369. If you mean business and want a farm, write for free list to Sidney P. Allen, 15 East Ninth Street, Kansas City, Mo.

FOR SALE OR TRADE—160-acre improved farm, in central Kansas. A bargain. For full particulars, address Jno. Fox Jr., New Cambria, Kans.

FOR SALE. FOR SALE. Splendid ranches and good farms in Wabawanna county, the best agricultural and grazing district in Kansas. Our grass lands are cheap; our farms well improved. Here, the man with small means can buy a home, and those wanting a stock ranch will find no better place to invest their money. Write me for list of farms, and description of our country. John G. Howard, Land Dealer, Eskridge, Kans.

FREE A book of statistics, information, and 200 E. Kans. farm descriptions. Write G. E. Winders Realty Co., Ottawa, Kans.

MISCELLANEOUS.

WANTED—By an experienced man with family, position as foreman on stock ranch. References exchanged. Box 217, Sabetha, Kans.

WANTED—A few barrels of good winter apples. State varieties and price. W. V. Jackson, Coldwater, Comanche Co., Kans.

SCOTCH COLLIE PUPS—Two months old, for sale. Females \$3 each; males \$5 each; extra nice; all black and tan. J. E. George, Burlingame, Kans.

WANTED AT ONCE—Seventy-five men to work in beet fields. We have a few houses reserved for men with large families. Standard Cattle Co., Ames, Neb.

ALFALFA SEED—New crop, specially cleaned, \$5 to \$5.50 per bushel, sacked on cars here. Chas. N. Woodell, Grain and Seed Dealer, Nickerson, Kans.

ALFALFA SEED—Crop of 1901. pure and fresh. Write for prices. McBeth & Kinnison, Garden City, Kas

FOR SALE—Feed mills and scales. We have 2 No. 1 Blue Valley mills, one 600-pound platform scale, one family scale, and 15 Clover Leaf house/scales, which we wish to close out cheap. Call on P. W. Griggs & Co., 208 West Sixth Street, Topeka, Kans.

NEW CROP SEEDS.

Present Prices, Sacked, Truck, Lawrence.

Table listing prices for various seeds: Alfalfa, Orchard Grass, Kentucky Blue Grass, etc.

Prices of other seeds on application. All orders filled promptly.

KANSAS SEED HOUSE. F. Barteldes & Co., Lawrence, Kansas.

SEED WHEAT "Turkish Red."

Why not add to the certainty of growing a good crop of winter wheat by sowing our "TURKISH RED" that always produces a good crop wherever winter wheat can be grown. It is iron clad and the hardiest wheat in existence; has proven of strongest vitality, given the biggest yield and best wheat in the world at every Experimental Station where tried.

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

KENTUCKY BLUE GRASS SEED.

For a beautiful as well as a most profitable pasture sow BLUE GRASS. The genuine Kentucky seed is what you want, and from September until June is the proper time to sow.

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

ALFALFA SEED

In large or small quantities. Write for samples and prices. E. J. HULING & CO., Las Animas, Col.

VIRGINIA FARMS AND OLD COLONIAL HOMES.

We have for sale any number of Farms in Virginia, suitable for country homes or for stock-raising and general farming purposes; acreage ranging from 25 to 1,500; prices ranging from \$200 to \$60,000. In many cases the buildings are worth more than the price asked for entire farm. Send for our Virginia farm list. LIGGETT & GOEHRING, 417 Fourth Ave., Pittsburgh, Pa.

THE GEO. H. ADAMS HEREFORDS

AT LINWOOD, KANS. YEARLING Bulls and Heifers for sale, sired by Orpheus 71100, and Ashton Boy 52058, and out of choice imported, and home-bred cows. Address all correspondence to GEORGE P. MORGAN, General Manager, Linwood, Kansas.

OLOVER BLOSSOM SHORTHORNS

Herd Headed by the Cruickshank Bulls Imp. Nonpareil Victor 132573 Sire of the champion calf and junior champion bull of 1900 ...Grand Victor 115752... Himself a show bull and sire of prize-winners.

FEMALES are Scotch, both imported and home-bred, pure Bates, and balance 3 to 6 Scotch tops. STOCK FOR SALE. GEO. BOTHWELL, Nettleton, Caldwell Co., Mo. On Burlington Railroad.

GEO. W. NULL, Odessa, Mo., LIVE STOCK AUCTIONEER.

Have held for, and am booking sales for leading stockmen everywhere. Write me before claiming dates. I also have Poland-China swine, Bronze turkeys, B. P. Rock, and Light Brahma chickens. 150 birds, and a lot of pigs ready to ship. Write for Free Catalogue.

100--POLAND-CHINA PIGS FOR SALE--100

Our old herd boar, Missouri Black Chief, was the sire of most of our prize-winners at the Missouri State Fair. Our herd boar, Missouri's Black Perfection by Missouri Black Chief, and out of a Chief Perfection 2d sow, won sweepstakes. I now offer for sale my 2-year-old herd boar, Missouri Black Chip by Missouri Black Chief and out of a dam by Chief I Am. ...Also, 100 Pigs of Similar Breeding...

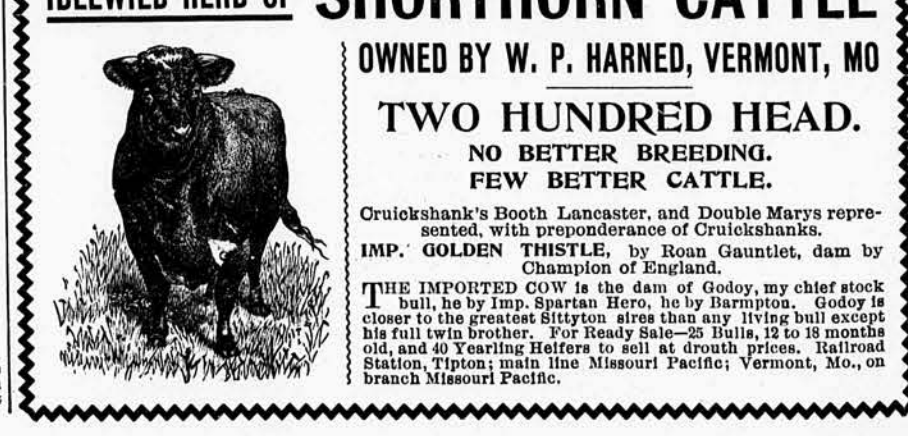
J. R. YOUNG, Richards, Mo.

IDLEWILD HERD OF SHORTHORN CATTLE

OWNED BY W. P. HARNED, VERMONT, MO TWO HUNDRED HEAD. NO BETTER BREEDING. FEW BETTER CATTLE.

Cruickshank's Booth Lancaster, and Double Marys represented, with preponderance of Cruickshanks. IMP. GOLDEN THISTLE, by Roan Gauntlet, dam by Champion of England.

THE IMPORTED COW in the dam of Godoy, my chief stock bull, he by Imp. Spartan Hero, he by Barmpyton. Godoy is closer to the greatest Sittytton sires than any living bull except his full twin brother. For Ready Sale—25 Bulls, 12 to 18 months old, and 40 Yearling Heifers to sell at drouth prices. Railroad Station, Tipton; main line Missouri Pacific; Vermont, Mo., on branch Missouri Pacific.



Do you want a **WIND MILL?** Do you want a **FEED MILL?** We have them the best made and at prices that CAN NOT BE EQUALLED. Write for further information, circulars, etc. **CURRIE WINDMILL CO., Topeka, Kans.**



KIRKWOOD FOR 1900
STEEL WIND MILLS, STEEL TOWERS, PUMPS, and CYLINDERS, TANKS, and FITTINGS OF ALL KINDS
—Address—
Kirkwood Wind Engine Co
Arkansas City, Kans.



DO NOT BUY WELL DRILLING
MACHINERY until you see our new Catalogue No. 41. We will furnish it to you FREE. Write to our address, either Harvey, Ill., Chicago, Ill., or Dallas, Texas.
F. C. AUST N MFG. CO.,
Factory Harvey, Ill.

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse power. Strong, simple and durable. Any mechanic can operate them easily. Send for catalogue.
WILLIAMS BROS., Ithaca, N. Y.

DRILLING MACHINERY
FOR WATER, GAS and MINERAL PROSPECTING. Steam or Horse Power. We are the oldest and largest manufacturers of Drilling Machinery in this country. Our machines are faster, stronger and easier to operate than any other machine on the market. They are no experiment. Thousands are in successful operation. Special attention given repair work. Send for Free Illustrated catalogue to The Kelly, Tansyhill & Woodruff Co., Waterloo, Iowa.



BOWSER FEED MILLS
(Sold with or without Elevator.) Grind corn with shucks, Kaffir corn in the head and all kinds small grain.
LIGHTEST RUNNING
Handy to operate.
7 sizes—2 to 25 h.p. One size for windwheel use.
C. N. P. BOWSER CO., So. Bend, Ind.



CYCLONE FEED AND ENSILAGE Cutter
LEADS THEM ALL!
Fitted with COMPOUND SPIRAL CYLINDERS, choking is impossible. With and without traveling feed. For a catalogue, address **FARMERS MFG. CO., Sebring, O.**



ROSS ENSILAGE CUTTERS
Furnished with BLOWER or CARRIER, as desired. GUARANTEED to be the BEST.
E. W. Ross Co., Springfield, O.
Send for Catalogue No. 49




BALES 15 Tons a Day HAY
The Gem Full-Circle Baler, lightest, strongest, cheapest baler. Made of wrought steel. Operated by 1 or 2 horses. Bales 10 to 15 tons a day. Sold on 5 days trial. Catalogue free. Address **GEORGE ETEL CO., Quincy, Ill.**



BULL-STRONG!
...PIG-TIGHT...
An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitzelman Woven Wire Colled Spring Fence, and the value would have gone a long way towards paying cost of the fence. With the Duplex Machine any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking. **KITZELMAN BROS., Box D37, Muncie, Ind.**



PAGE CLIMB RIGHT ON
PAGE FENCES. That's the way to find out. **PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.**

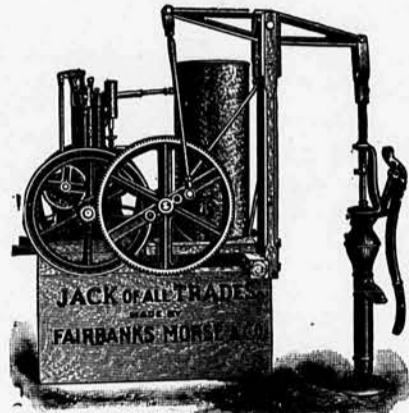


WATER! WATER!

Plenty of Water can be obtained at a cost of about

TWO CENTS


Per thousand gallons by using this little



Prices Right. Immediate Delivery.
1223 Union Avenue
KANSAS CITY, U. S. A.

BRAND NEW STEEL ROOFING

Bought at Roofers' Sale. Sheets either flat, corrugated or "V" crimped. No tools except a hatchet or hammer needed to lay the roofing. We furnish free with each order enough paint to cover and nails to lay. Price per square, \$1.75. A square means 100 square ft. Write for Free Catalogue No. 61 on General Merchandise. **Chicago House Wrecking Co., West 35th and Iron Sts., Chicago, Ill.**



YOU NEVER CAN TELL

how soon you will need medicine. Get our Large Drug Book, keep it handy. Contains over 15,000 listed drugs, medicines, family remedies, toilet articles, etc. Mailed for 10c. We refund amount out of first order. "The Only Mail Order Drug House in the World." **HELLER CHEMICAL CO., Dept. 47 Chicago, Ill.**

THE BEST PATENT ON THE MARKET.

\$100 REWARD
If 6 months' treatment don't cure any case of **Bad Health, Catarrh, Bad Blood, Bad Taste, Bad Breath, Bad Complexion, Irregular Appetite, Bowel Trouble, Weak Kidneys, Lazy Liver, Rheumatism, Dyspepsia, Headache, Backache, Stomach, or Heart Trouble.**
The very best constitutional treatment in unhealthy seasons and places is **HUNT'S DIGESTIVE TABLETS.** One tablet per day, 1/4 hour before breakfast.
One month's treatment by mail, 25 Cents.
Six months' treatment, 180 tablets, \$1.00.
Put up by **T. J. HUNT, Merom, Indiana.**

RHEUMATISM

Nine years ago I was attacked by muscular and inflammatory rheumatism. I suffered as those who have it know, for over three years, and tried almost everything. Finally I found a remedy, that cured me completely and it has not returned. I have given it to a number who were terribly afflicted, and it effected a cure in every case. Any one desiring to give this precious remedy a trial, I will send it on receipt of 10 cents to pay cost of mailing. Address, **Mark H. Jackson, 708 University Building, Mr. Jackson is responsible. Syracuse, New York.** Above statement true.—Pub.

THE GIANT'S SECRET

Of attaining perfect manhood is in using **Dr. Burns' Marvelous Indian Giant Salve.** THE ONLY EXTERNAL REMEDY for Atrophy, Varicocele and Impotency. Builds up, Strengthens, Develops. Indorsed by physicians and medical journals. A box mailed in plain sealed wrapper for 25c. silver, money order or stamps. Address, **The Burns Remedy Co., 38 B, Kilby St., Boston, Mass.**

RHEUMATISM....

Is quickly relieved and promptly cured by **Dr. Drummond's Lightning Remedies.** The internal remedy is pleasant to take, acts immediately, does not disturb digestion, and is for rheumatism only in all its torturing forms. The external preparation restores stiff joints, draws cords, and hardened muscles. If your druggist has not these remedies in stock, do not take anything else. Send \$5 to the **Drummond Medicine Co., New York,** and the full treatment of two large bottles will be sent to your express address. Agents wanted.

PILES

Fistula, Fissures, all Rectal Troubles quickly and permanently cured without pain or interruption of business. **Mr. Edward Somers, Castleton, Ill.,** suffered with bleeding, swelling, and protruding piles for many years, doctors had given his case up as incurable; he was completely cured by our treatment in three weeks. Thousands of pile sufferers who have given up in despair of ever being cured, have written us letters full of gratitude after using our remedies a short time. You can have a trial sample mailed FREE by writing us full particulars of your case. Address **HERMIT REMEDY CO., Suite 736, Adams Express Bldg., Chicago, Ill.**

I WILL SEND FREE—To any mother a sample of **Bed Wetting**, a simple remedy that cured my child of bed wetting. **Mrs. G. SUMMERS, Box C, NOTRE DAME, INDIANA.**

Ladies Our monthly regulator never fails. Box FREE. **DR. F. MAY, Bloomington, Ill.**
BED-WETTING CURED. Sample FREE. **DR. F. E. MAY, Bloomington, Ill.**



The Oil Wells

Of the West are creating a great deal of excitement, much talk and speculation, but there is no speculation about the service on the Union Pacific, "The Overland Route." The trains are quicker, the service better, the roadbed superior, the line shorter, and the route more interesting than that of any other road.

F. A. LEWIS, City Ticket Agent,
525 Kansas Avenue.

J. C. Fulton, Depot Agent.

Vandalia-Pennsylvania Lines.

THREE THROUGH TRAINS DAILY FROM ST. LOUIS TO THE EAST
8.44 A. M. 1.00 P. M. 11.35 P. M.
Through sleepers and dining cars. Parlor, observation smoking car on the 1.00 P. M. train.
"AKRON ROUTE" to BUFFALO via VANDALIA-PENNSYLVANIA-ERIE LINES.
Through sleeper leaves St. Louis 8.04 A. M. daily.
For rates, folders, etc., address **J. T. FOLEY, T. P. A., Kansas City, Mo.;** or **J. M. CHESBROUGH, Assistant G. P. A., St. Louis, Mo.**

THE AGRICULTURAL PROBLEM....

Is being solved in a most satisfactory manner, along the line of the **MISSOURI PACIFIC RAILWAY**

IRON MOUNTAIN ROUTE

All sorts of crops are being grown, and they are large crops, too. Reduced rates are offered the first and third Tuesdays of each month, and these events are called low rate Homeseekers' Excursions. Literature on Missouri, Kansas, Arkansas, Texas, and on **Zinc and Lead Mining,** will be mailed free on application to **H. C. Townsend, General Passenger and Ticket Agent, St. Louis.**

Farmer and Capital,

\$1.25.
The Semi-weekly Capital, published twice a week at Topeka, Kansas, is an excellent 8-page Republican newspaper. It is issued Tuesday and Friday of each week and contains all the news of Kansas and the world up to the hour of going to press. To a farmer who cannot get his mail every day it is as good as a daily and much cheaper. . . . By a special arrangement we are enabled to send the Kansas Farmer and Semi-weekly Capital both one year for \$1.25. This is one of our best combination offers and you can't afford to miss it. Address: **THE KANSAS FARMER CO., TOPEKA, KANSAS.**

Easy Money in Missouri.

A good many enterprising Northerners have gone into the fruit belt of South Missouri and North Arkansas and MADE IT PAY. They have not done it raising corn and wheat, but by planting orchards of selected trees and TAKING CARE of them. There's money in Missouri apples, peaches, grapes, berries—EASY money when you go at it right, and the land can be bought for \$2 to \$10 per acre. Write for copy of "Fruit Farming Along the Frisco;" also dates of cheap homeseekers' excursions.

BRYAN SNYDER,
GENERAL PASSENGER AGENT,
SAINT LOUIS, MO.



O. F. MENNINGER M. D., Consulting Physician.
727 KANSAS AVENUE, TOPEKA, KANSAS.
Specialties: Chronic, and Obscure Diseases Heart and Lungs



STEELE BROS., Belvoir, Douglas Co., Kans.,
Breeder of SELECT

HEREFORD CATTLE.

YOUNG STOCK FOR SALE. INSPECTION OR CORRESPONDENCE INVITED.

Sunny Slope Herefords

...290 HEAD FOR SALE...

Consisting of 200 Bulls, from 8 months to 4 years old, and 90 yearling heifers. I will make very low prices on bulls, as I desire to sell all of them before May 1. Write me, or come at once, if you want a bargain.

C. A. STANNARD, Emporia, Kans



T. K. Tomson & Sons,

* * Proprietors of * *

Elderlawn Herd of Shorthorns.

DOVER, SHAWNEE COUNTY, KANSAS.

GALLANT KNIGHT 124468 in service. How would you like a cow in calf to, or a bull sired by, Gallant Knight 124468? His get won 14 prizes at the National Cattle Show held at Kansas City last October. 100 head in herd. Correspondence and inspection invited.

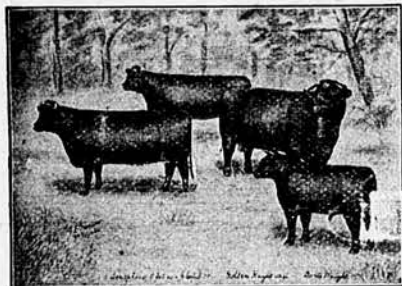
SCOTT & MARCH,

BREEDERS OF PURE BRED

HEREFORDS.

BELTON, CASS COUNTY, MO.

BULLS in service, HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93682, FRISCOE 93674, FULTON ADAMS 11th 83731. Twenty-five miles south of Kansas City on Frisco; Fort Scott & Memphis; and K. C., P. & G. Railroads.



Pearl Shorthorns.

Herd Bulls:

BARON URY 2d 124970. LAFITTE 119915.

Inspection Invited

C. W. TAYLOR, Pearl, Kans

Valley Grove Shorthorns

THE SCOTCH BRED BULLS

LORD MAYOR 112727, and LAIRD OF LINWOOD 127149

HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull, Baron Lavender 2d, out of Imp. Lady of the Meadow, and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also bred Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address T. P. BABST, Prop., Dover, Shawnee Co., Kans



Gudgell & Simpson,
Independence, Mo.,
..BREEDERS AND IMPORTERS OF..

Herefords

One of the Oldest and Largest Herds in America.

ANXIETY 4TH Blood and Type Prevail

LAMPLIGHTER 51834.

Both Sexes, in Large or Small Lots, Always For Sale

Tebo Lawn Herd of Shorthorns

—HERD BULLS ARE—

IMPORTED COLLYNIE 135022 bred by Wm. Duthie.

IMPORTED BLYTHE VICTOR 140609 bred by W. S. Marr.

IMPORTED BAPTON MARQUIS bred by J. Dean Willis.

ADMIRAL GODOY 133872 bred by Chas. E. Leonard.

FEMALES are the best CRUICKSHANK families topped from the leading importations and American herds. These added to the long established herd of the "Casey Mixture," of my own breeding, and distinguished for individual merit, constitute a breeding herd to which we are pleased to invite the attention of the public. Inspection and correspondence solicited. Address all correspondence to manager.

E. M. Williams,
Manager.

G. M. CASEY, Owner,
Shawnee Mound, Henry County, Mo.

**Riverside
Stock Farm**

O. L. THISLER, & CHAPMAN & DICKINSON CO., KANS.
Importer and Breeder of
PERCHERON, and FRENCH COACH HORSES,
and SHORTHORN CATTLE.

For Sale—A few Shorthorn heifers, and Percheron stallions; also a Special Bargain on 9 Registered Hereford Bulls, 2 years old, and a few Full-blood Percheron Mares.

SNYDER BROS., Winfield, Kans.,

Breeders of

POLAND-CHINA SWINE; SHIRE, CLYDE, AND PERCHERON HORSES,
AND POLLED DURHAM CATTLE.

For Sale at Special Prices—17 BOARS, and 25 GILTS, farrowed mainly in November and December. They are extra well bred and very thrifty.
8 Polled Durham Bulls, of serviceable age. 17 Stallions over 2 years. 2 Mammoth Jacks.



**AMERICA'S LEADING
HORSE IMPORTERS!**

EVERY FIRST PRIZE; except one, at the Universal Exposition, Paris in 1900.
NINETEEN MEDALS at the Great Percheron Show at Nogent-le-Rotrou in 1901.
THIRTY-FIVE MEDALS at the Great Annual Show of France at Nantes and other shows throughout the Draft Horse Breeding Districts of that country.
THE LARGEST SINGLE IMPORTATION ever made by ANY FIRM now in business just received at our stables.

McLAUGHLIN BROTHERS,
SIXTH AND WESLEY AVES., COLUMBUS, OHIO.

GALLOWAYS.

Largest Herd of Registered Galloways in Kansas

Young Bulls, Cows, and Heifers For Sale.

E. W. Thrall, Eureka, Kansas

50
**SHORTHORN
BULLS
FOR SALE.**

THE BILL BROOK HERD OF REGISTERED
SHORTHORNS

HAVE ON HAND FOR READY SALE

FIFTY YOUNG BULLS,

from 6 to 20 months old; also a few good heifers.

Address

H. O. TUDOR, Holton, Kansas.

The Brinkman Reinertsen Co.,

609 Board Trade, KANSAS CITY, MO.

Receivers **GRAIN** Exporters

Special Departments for Consignments and Options.

Solicit Consignments and Execute orders (1000 and upwards) in Futures in the Kansas City market.

Reference: National Bank Commerce American National Bank

A Sure Preventive of Blackleg

Is Parke, Davis & Company's Blackleg Vaccine Improved. Ready for Immediate Use. No Expensive Outfit Needed.

All you have to do is to put the Vaccine in your syringe, add boiled water according to directions, and inject into your cattle. It will positively PROTECT your cattle from the dread disease, Blackleg, the same as vaccination prevents Smallpox in the human family. Specify Parke, Davis & Co.'s Blackleg Vaccine Improved, and get the kind that is sure to be reliable. EVERY LOT IS TESTED ON CATTLE BEFORE IT LEAVES OUR LABORATORIES. Write for Literature and Full Information, Free on Request. FOR SALE BY ALL DRUGGISTS.

PARKE, DAVIS & COMPANY, Detroit, Michigan.

Branches: New York City, Kansas City, Baltimore, New Orleans, Chicago, Walkerville, Ont., Montreal, Que., and London, England.

Our Spot Cash Guarantee Reads--

Security Gall Cure will cure all galls from saddle or collar while horse is working. Sore shoulders made well by use of Security Gall Cure. This is the truth. Try it now—your horses need it to-day. We assume all risk and will immediately refund money if you are not satisfied. Ask your dealer for a box or send us twenty-five cents.

SECURITY STOCK FOOD CO., MINNEAPOLIS, MINN.

PILES--No Money till Cured

All diseases of the rectum treated on a positive guarantee, and no money accepted until patient is cured. Send for free 200-page book; a treatise on rectal diseases and hundreds of testimonial letters, valuable to anyone afflicted. Also our 64-page book for women; both sent free. Address,

DRS. THORNTON & MINOR, 1007 Oak St., Kansas City, Mo.