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THE ELECTION IN KANSAS.

The returns at this writing are nearly complete as to Governor, but while mainly conjectural as to other positions, it is expected that the Republican candidates have fair pluralities. The contest centered on the Governorship, with the result that Governor Hoch's splendid plurality of 69,000 two years ago has fallen to about 2,000. Two years ago Ed. Hoch was "drafted" and almost forced to be a candidate, and was supported in the campaign and at the election by the spontaneous work and votes of members of his own and other parties. This year his nomination lacked enthusiasm and he is elected by a narrow margin of votes.

The politicians are puzzled to account for the change.

Personally, Mr. Hoch is a clean, pure-minded, Christian gentleman. His purposes are good and his address is pleasing. As a public speaker he has few equals.

He made an active campaign, in which he came in personal contact with and favorably impressed many thousands of voters. The management of his party was loyal to him. There were no concentrated "interests" arrayed against him. His administration has been free from scandals.

Why, then, the great change in the attitude of voters?

Realizing that E. W. Hoch was one of them, the law-and-order people of the State expected much—more, probably, than any Governor could have done under the Kansas law as it now is. To say that they were disappointed is putting it mildly. They involuntarily contrasted the iron-jawed execution of the little law they have against the liquor traffic in Missouri with the scattering and sometimes ineffectual measures in Kansas, and they questioned whether the Kansas Chief Executive had any part in the work that was done. Law-and-order people are generally not shrewd politicians. They demand results and may overlook the difficulties, but their disappointment at the apparent lack of vigor in obedience to the constitutional mandate wherein it is stated that "The supreme executive power of the State shall be vested in a Governor, who shall see that the laws are faithfully executed"—this disappointment undoubtedly cost Mr. Hoch many thousands of votes.

Another cause of defection was the charge, carrying to many the conviction, that the convention that nominated Hoch was dominated by corporation influences. Time was when such a charge, even if proven, would have had little effect in the results at the polls. Such is not the case this year. The influence of the movement which forced Congress to pass the rate law and which is almost ready to demand Government ownership if Government regulation shall not prove effectual—this influence made voters fastidious about alleged corporation influence on nominations and platforms. Governor Hoch was a loser on account of this influence.

Voters generally give little heed to bickerings among politicians; but they are always for fair play, and if they believe that a champion of a righteous cause has been denied a square deal they resent it. The impression was general, two years ago, that E. W. Hoch would not have been "drafted" but for the work, influence, and money put into the movement by W. R. Stubbs, of Lawrence. The impression has been widespread for many months that Mr. Stubbs was not given due consideration by the Governor, while others made it a point to "down" Stubbs at the convention. How many votes

were lost to the head of the ticket on this account can not be easily estimated.

Other matters, such as the State Treasury affair, and the School-Book Commission charges, doubtless added to the influences that determined voters.

But it must not be overlooked that Col. W. A. Harris, the Democratic standard-bearer, is a strong man. He is well known to very many of the strong men of Kansas. As a breeder of Shorthorn cattle he made a reputation second to none. His acquaintance with stockmen was all to his advantage. The fact that he had been unfortunate and had lost his farm and that he was working for a living in Chicago weighed nothing in the estimation of voters. His record in the U. S. Senate showed purpose, resolution, and efficiency. His declaration that if elected he would see to the enforcement of all laws carried conviction to the extent that great majorities against him were recorded in some communities in which the prohibitory law is most violated. The fact that Mr. Harris was a soldier in the Confederate army does not make people angry any more. Belief in his honesty, ability, and purpose to do his full duty if elected enabled him to come very close to election with an adverse party majority against him that looked insurmountable.

The independence of voters this year is very pronounced. They look upon the habit of doing their own thinking as the Roosevelt way.

Doubtless in the future more than in the past executive officers will have to execute the laws and representative officers will have to represent the people.

PLANT-BREEDING WORTH MILLIONS.

The new director of the Kansas Experiment Station in outlining some of the work to be undertaken gives deserved prominence to the improvement of standard crops by the now well-recognized methods of breeding and selection. The magnitude of the cash value of results surely attainable in this work warrants the utmost attention to it that has ever been proposed. All other experimental work is dwarfed by comparison of probable results with those assured from intelligent and persistent breeding of plants. A feature of this work, too, is its insignificant cost compared with outcome. Little expensive equipment is required. Student labor under competent direction is cheap and effective. Its employment has the added advantage of affording practical training in plant-breeding to men whose future labors will be worth more than money.

Kansas at present produces over six million acres of wheat and over six and a half million acres of corn each year. It has been demonstrated that yields from well-bred seed adapted to the conditions of the locality in which grown are greater than the yields from good ordinary seed. The superiority of the crop produced by high-bred seed varies. With wheat the work has been carried on for several years in Minnesota and the improved seed has been tested under farm conditions on large areas. Reports of results are somewhat varied, but generally the improved seed showed its superiority. That an increase of three bushels per acre is attainable from the improved seed is scarcely questioned. Applying such an increase to Kansas' 6,000,000 acres would mean an addition of 18,000,000 bushels a year to the wheat-crop. The value of such increase

would be at least \$10 million dollars. This means ten million dollars not only for one year but every year. Continued work at breeding is not only the attainment of such increase, but progressive additions to this increase.

Figures similar to the above are applicable to the 6,500,000 acres of Kansas corn. Kansas oats needs improving, and will pay liberally for the cost of improvement. Good as Kansas alfalfa is, it may be bettered. The value of the crop can be greatly increased by selection and breeding. The pasture and meadow grasses have almost escaped the attention of the plant-breeder. Kansas conditions call for grasses bred with reference to successful growth under these conditions.

These results, worth many millions every year to the farmers of Kansas, can be attained by the expenditure under competent direction of only a few thousands each year. The work is a large one and should be done in a large way. If done effectively it must be done by the State. It belongs to the Agricultural College Experiment Station. It is both scientific and practical in its aspects, but is eminently practical in its results.

The work now in progress under the direction of Professor TenEyck is a beginning. In his tour of a large part of the State, Professor TenEyck is greeted by large audiences of farmers who feel acquainted with him from having read his letters in THE KANSAS FARMER. They find a plain-speaking man endowed with abundance of common sense, a man who talks as a farmer, and knows what he is talking about. His labors for the improvement of corn furnish a good beginning for the larger work which it is hoped and expected will be carried on at the Experiment Station. In this work many farmers in various parts of the State have cooperated.

Dr. Burkett, the new director, finds a valuable work under way and in the hands of good men. His support of this work and his influence in harmonizing the several branches of it, and especially his expected efforts in greatly extending it, will meet with hearty approval by the farmers of Kansas.

CURING ALFALFA IN SHED.

EDITOR KANSAS FARMER:—This fall I sowed my first patch of alfalfa, and, all things considered, it looks very well. Next year I want to put the hay from this sowing under cover. In looking over my old KANSAS FARMER clippings, I came across an article by J. W. Berry, a regent of the Kansas Agricultural College, telling how this was done in Jewell County. The hay was loaded with a loader and pulled under cover the same day it was cut. What I want to know now is how large shall I make my shed for ten acres of alfalfa? How high ought the shed to be, and will it need to be sided up tight or just an open shed? I am going to set it in a cottonwood grove where it will have a windbreak on all sides. I do not want to pile each cutting over three feet deep, and I want to know how much floor space it will take per ton.

Stafford County. C. W. S.
Hay made by placing freshly cut alfalfa in a shed three feet deep will be very compact when cured. A ton will probably occupy a space smaller than that represented by the conventional 7½-foot cube, that is less than 422 cubic feet. If it is three feet deep when cured, a ton will probably occupy a floor space not over 10 feet square or 144 square feet. There will, however, be less liability of mow-burning if the layer of hay be made thinner, say 18 by 16 by 2 feet. If, then, the shed be

made 32 feet wide, it will hold a ton for every 6½ feet in length.

If the alfalfa yield one and a quarter tons per acre at the first cutting, the ten acres will yield 12½ tons, to hold which a 32-foot shed should be about 80 feet long. The subsequent cuttings will generally be not so heavy as the first, so that if the shed were made 8 feet high at the eaves, it would hold the hay. Such a shed may be filled by means of a horse-fork run on a track under the comb. The thinner the green alfalfa can be spread in the shed, the less liability there will be of mow-burning, so that the larger the shed the better.

Any arrangement that provides for the exclusion of rain and a chance to cure is suitable. If rain can be prevented from reaching the alfalfa in the open shed, then the open shed is suitable.

Assistant Secretary Mohler, of the Kansas State Board of Agriculture, cures his alfalfa in the cock. He uses covers made of ducking. His hay brings the top of the market. It may be worth while for our correspondent to consider the relative cost of the shed and suitable covers. Such covers, 40 inches square, made of what is known as 10-ounce, 40-inch ducking, will cost approximately \$25 per hundred. Each will cover about a 200-pound cock, or 125 covers will protect an entire cutting at a good yield. Usually the hay will not be all down at once, and 100 covers would be ample provision for a crop of ten acres. If it is preferred to make smaller cocks, say 100 pounds each, covers 29 inches square may answer. These made of 8-pound ducking will cost approximately \$15 per hundred. Such covers properly cared for last many years.

A shed, however, is desirable for protecting alfalfa after it is cured, so that the entire expense of the shed can not be avoided by using the covers.

KANSAS AT THE FARMERS' NATIONAL CONGRESS.

Kansas was represented at the annual meeting of the Farmers' National Congress, at Rock Island, Ill., by a goodly number of farmers, as follows:

Robt. L. Kepperling (life member) and wife, Junction City; Jasper Swan, Coffeyville; Martin Missil, Elmwood; G. C. Dwlebohm, Kearney; Dyson Jackson and wife, Council Grove; L. A. Breed, Jewell City; G. W. Dart, Montrose; E. P. Diehe, Olathe; W. D. Ripley, Severance; H. R. Hubbard, Leland; M. D. Shockley, Colony; John T. Lacley, Sharon Springs; Jacob Tracksel, Goodland; C. P. Jewell and wife, Dighton; A. R. Lasley, Scott City; Frank Barley, Goodrich; M. S. Wintry, Peabody; John Shearer, Frankfort; W. P. Callison, Callison; H. A. Steffel, Norton; John A. Penix, Bunker Hill; C. F. Hyde, Colwich; G. J. Mailzer, Centralia; H. L. Zellar, Keats; Eli Corbin, Canton; A. P. Reardon, McLouth; H. T. Randal, Pratt City; Luther H. Kreigh, Johnston; James H. Little, LaCrosse; J. L. Nyard, Vesper; Theobold Lutry, Holton; W. S. Ballard, Hazleton; M. M. Maxwell, Valley Falls; A. A. Baldwin, Piedmont; L. A. Wait, Folsom; William Jobling, Fowler.

READ THE NEW RATE LAW.

In another place in this number of THE KANSAS FARMER we print the new interstate commerce law. This is the most important law enacted in recent years. If it shall be faithfully executed, further legislation along this line will scarcely be needed. THE KANSAS FARMER believes that it is wisdom on the part of the railroads to obey the law and that the wisest railroad managers will desire to see it en-

forced, especially as to their competitors. If, under pressure of large shippers, any one road shall be guilty of discriminating or of rebating, or if it shall be made to appear to other roads that one road has been guilty and the offending road be not brought to speedy trial, conviction, and punishment, the law will be deemed a failure and its violation will probably become general.

It is fortunate that the enforcement of law is now becoming popular. It is also fortunate that President Roosevelt has yet two and a quarter years to serve. His leadership and his expectation that his appointees will do their full duty will have a salutary effect upon those who might yield to a pressure for a lax administration of the law.

Every reader of THE KANSAS FARMER who desires to be well informed on the law and its observance should read it carefully in this number and should then lay it away for future reference.

Miscellany

Commerce in Canned Goods.

The growing use of canned foods so readily observable in domestic affairs and domestic commerce is extending to the foreign trade. Figures of the Bureau of Statistics of the Department of Commerce and Labor record the exportation of over 18 million dollars' worth of canned foods in the fiscal year just ended, 1906, against about 11 millions in 1896, an increase of over 60 per cent in that time.

This total of 18 million dollars includes only articles in which the form of their exportation is so distinctly stated as to justify their classification under the general title of canned goods. They include such articles as canned beef, about 6½ million dollars; canned fruits, 2½ millions; canned salmon, practically 4 millions; milk, chiefly condensed and canned, nearly 2 millions; canned pork, 1¼ millions; canned vegetables, over a half million; while sundry less important articles bring the total recorded canned goods above 18 million dollars for the year. In addition to this, it is probable that the lard, butter, and certain other articles of this character exported to tropical countries or to parts of the world which can only be reached by long voyages are also sent in sealed or airtight packages.

In addition to this 18 million dollars' worth of exports, as distinctly designated as canned foods, there is about 1¼ million dollars' worth to Hawaii, Porto Rico, and Alaska, which is not included in the statement of exports, although the \$350,000 worth sent to the Philippines is so included, since the Bureau of Statistics still includes the trade with the Philippines in its figures of foreign commerce.

Canned provisions, or "tinned" foods as they are designated in most countries other than the United States, form a considerable part of the food supply of Europeans and Americans in the Tropics and in the Orient. The supply of animal food in tropical countries is small and that of vegetables also small and the quality unsatisfactory to people from the Temperate Zone. As a consequence, coupled with the steady increase in the number of Temperate Zone people living in or traveling through the Tropics and the Orient, the demand for canned or "tinned" foods is steadily and rapidly increasing in those parts of the world.

A decade ago the value of canned fruits sent out of the United States was but 1¼ million dollars, against 2½ millions in 1906; and the total of canned pork and other canned meats (exclusive of beef), which now aggregate nearly 3 million dollars, was a decade ago of so little importance that it was not separately enumerated in the statement of exports, but simply grouped under the general designation of "all other;" while the exportation of milk, most of which goes in condensed and canned form, was a decade ago about one-quarter of a million dollars in value, and now is nearly 2 million dollars annually.

The distribution of these articles of canned food shows a steady trend toward the Tropics, but that in certain of the standard food supplies, such as beef, pork, salmon, and fruits, the European countries are also drawing upon the United States to a considerable extent. Of the canned beef exports of 1906, which amounted as a whole to \$6,430,446, the United Kingdom took \$4,431,616 in value; while the next largest customers were British Africa, \$618,436; Japan, \$231,185; Germany,

\$166,736; and Belgium, \$155,017. Mexico, Cuba, the West Indies, and the South American countries were also considerable purchasers of this class of merchandise, in sums ranging from \$25,000 to \$50,000.

Of canned fruits, the total exportation of which was, in 1906, \$2,348,064, the United Kingdom is also by far the largest customer, taking in 1905, the latest year for which figures are available, \$2,058,505 out of a total exportation in that year of \$2,541,235. In canned salmon, of which the exportations ranged nearly 4 million dollars annually, the United Kingdom is the largest purchaser, taking, in 1905, \$1,872,992 out of a total export of \$3,035,469 of canned salmon in that year.

One rather curious item of exportation is caviare, of which large quantities are supplied by the establishments of the Great Lakes which produce this article from the plentiful supply of fish eggs there available, the total exportation having aggregated nearly 2 million dollars in the last decade. The quantity exported is, however, steadily decreasing, ranging downward from \$254,334 in 1897 to \$17,829 in 1906; while the total value of caviare imported into the United States in 1905, the latest year for which figures are available, was \$27,220.

The following table shows the value of the principal articles of canned goods exported from the United States in 1906:

Canned beef.	\$6,430,446
Canned salmon.	3,847,943
Canned fruit.	2,348,064
Canned milk.	1,889,690
Canned pork.	1,215,857
Canned meats, other.	1,593,497
Canned vegetables.	658,739
Canned fish, except salmon.	187,711
Canned caviare.	17,829

Training Kansas Veterinarians in Kansas.

EDITOR KANSAS FARMER:—With the great development of our agricultural and live-stock interests there seems to be, either from carelessness or negligence on the part of the people, or from outside causes, a great increase in diseases of farm animals. When we consider the money value of the live-stock interests of Kansas, it is not surprising that farmers are calling for trained veterinarians. For many years the Kansas Agricultural College offered an elementary course principally for the benefit of the agricultural students who returned to the farm, a course simply to give certain elementary instruction in the general care of farm animals. So many of the students who received this elementary instruction kept going elsewhere for a complete veterinary course, that a little more than a year ago the regents added a regular four-years' course, establishing a veterinary school at the Agricultural College. Seventy-eight students are now enrolled in that course and four trained veterinarians are giving instruction. The head of the department, Dr. Schoenleber, is by law Ex Officio State Veterinarian. He has three assistants now and will have a fourth in January. It may be well to note that these men do not spend all their time in the strictly veterinary work, but are teachers of bacteriology for other courses in the college.

Already there has been built up a very large practise, both in hospital work and in field work, but the limited facilities make it very difficult for the department to grow very much more or to do all the work that the instructors ought to do. The department is now confined to the use of one lecture room, one small museum, and one small laboratory. While crowded all the time with clinical work, sometimes as many as twelve animals being in the yard at a time for treatment, there is no operating room, no good facilities for dissecting animals or training the students in that work.

It is a safe estimate to say that 150 young men from Kansas are now attending veterinary colleges outside of the State, paying an average of \$100 a year tuition and spending an average of \$6 per week for other expenses. This means a very large sum of money paid out by men who may be tempted to go elsewhere, who, if educated here in the State, would be inclined to remain here and go out into country practise, where they are greatly needed. It seems, therefore, a simple problem in home economics for Kansas to properly equip its own veterinary schools and keep these 150 students, that are now going elsewhere, within the State for their training, and the one necessity before this can be done is a veterinary building, a building planned for this work and properly equipped. Such a building could be erected at Manhattan for about \$75,000, and this would mean about \$100,000

anywhere else, as the past history of public buildings proves. Very little more money would be required to conduct a school for 150 students in a proper building than for 75 students as they are now cared for. This is a matter that the Kansas farmers need to take into consideration at once. M.

Road-Making and Cost in Fifteen States.

In its efforts to get complete and trustworthy reports on roads and road-work done by the different States, the Office of Public Roads has met many difficulties, some of them due to lack of system in keeping records of moneys spent and results accomplished, others to the fact that many roads have never been surveyed or measured; others to the probability that in some instances mileage of roads on State, on county, and on township lines may have been reported twice.

It is believed, nevertheless, that the figures obtained may be accepted as being fairly near the truth. It may be taken as certain that no one can furnish more nearly accurate statistics in the present condition of road affairs. Later efforts to gather precise data will doubtless bring full and exact reports from many more than the fifteen States which have reported.

Most of the data published by the Office of Public Roads were obtained by voluntary correspondents appointed by the United States Department of Agriculture, and all reasonable pains were taken to verify the figures given. In many cases their correctness was vouched by local officials who had supervision over the public roads included in the reports, or of records pertaining to those roads.

A concise statement of the number

States.	Miles.	Stone.	Gravel.	Total cost.
Alabama.	50,089	392.5	1,261.5	\$1,576,434.27
Arizona.	5,987	1.0	216.0	109,309.43
Arkansas.	36,445	55.0	181.0	1,395,342.80
Iowa.	102,448	293.0	1,465.0	3,106,607.50
Maine.	25,528	87.5	2,236.0	1,472,393.70
Maryland.	16,773	840.0	480.0	873,470.50
Montana.	22,419	...	65.0	404,097.81
New Hampshire.	15,116	118.0	1,175.0	872,606.35
New Mexico.	15,326	...	2.0	165,652.56
North Carolina.	49,763	399.0	422.0	1,358,687.23
Oregon.	34,258	209.0	2,235.0	796,375.97
Pennsylvania.	99,777	2,129.0	...	4,887,265.68
Tennessee.	48,989	1,774.0	2,511.0	1,621,777.15
Virginia.	51,812	755.0	720.0	687,751.06
Washington.	31,998	48.5	1,928.0	1,436,070.19
Totals.	606,728	7,101.5	14,845.5	\$20,763,742.20

of miles of all roads in the fifteen States named, the mileage of stone, that of gravel, and that of other improved highways, and their total cost in the year 1904, is given in tabulated form because such presentation helps to a clear idea of the extent of the highways repaired, and the amounts the people of the several States have been willing to pay for road improvement.

These tables may serve to give a better idea also than has been common in this country of the actual cost of such work, under conditions such as have been generally found in the United States. It may not be amiss to add that in the main this article relates to the fifteen States named in the tables, and to them only. Fourteen other States have reported on this subject, but the precise figures covering the several items as shown herein are not at present available for the purposes of this account.

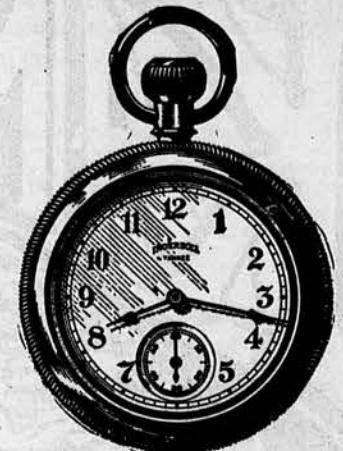
The sources from which the sums spent on their roads were derived by the several States, the amounts thus expended, and the average cost per mile and per capita of the population of the States named, were, in the year 1904:

States.	Property.	Labor.	Per mile.	Per capita.
Alabama.	\$378,039.77	1,198,394.50	\$31.47	\$0.86
Arizona.	67,591.43	41,718.00	18.25	0.89
Arkansas.	681,933.80	713,409.00	38.28	1.06
Iowa.	2,344,106.50	762,501.00	30.32	1.39
Maine*	1,472,393.70	...	57.67	2.12
Maryland.	873,470.50	95,354.00	52.07	0.73
Montana.	308,743.81	96,354.00	18.02	1.66
New Hampshire*	872,606.35	130,194.00	57.72	2.12
New Mexico.	35,457.56	734,306.45	27.30	0.84
North Carolina.	624,380.78	146,658.00	23.24	0.71
Oregon.	649,717.97	...	48.98	0.77
Pennsylvania.	4,887,265.68	892,635.75	33.10	0.80
Tennessee.	386,013.85	...	13.27	0.37
Virginia.	687,751.06	91,228.00	44.88	2.77
Washington.	1,344,842.19
Totals and averages....	\$13,269,314.90	\$3,906,298.00	\$34.22	\$1.27

*Maine and New Hampshire provide money for making and for repairing highways, townways, and bridges by votes at their annual town meetings, in the spring, and this tax is assessed and collected as are other taxes there.

Included in the totals of mileage, but not shown as improved highways, are 12 miles of Alabama roads surfaced with clay-sand mixtures, and 4 miles of chert-covered roads; Maryland had 250 miles of shell roads, not shown as improved; North Carolina had 438 miles of clay-sand surfaced highways; Oregon had 145 miles of plank roads, in addition to the stone and the gravel

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roads mentioned, and Virginia had 100 miles of shell roads, and 25 miles surfaced with slag but not included in the improved roads mentioned in the tables.

It appears that of the fifteen States named, Tennessee had in the year 1904

first place for the number of miles of improved highways, and Oregon was second. The State of Washington had one mile of improved highway for each 262 of her inhabitants; but Oregon held first place in that respect, for she had a mile of such highway for each 159 of her people.

A report by the Massachusetts Highway Commission shows that in the year 1905, the average cost per mile of 61,969 miles of roads was \$5,708.88, exclusive of the cost of bridges and of engineering charges. Of these roads 28,799 sq. yds., or 4,046 miles, were macadam 12 ft. wide, costing \$10,750.19; 11,828 sq. yds., or 1,815 miles was macadam 18 ft. in width and cost \$27,750.18; and 12,696 sq. yds., or 1,031 miles, was macadam which cost \$17,415.17, making a total of 58,333 sq. yds., or 6,892 miles, at a cost of \$55,915.54, and averaging \$8,113.11 per mile.

Of those roads 43,550 sq. yds., or 2,776 miles, were graveled, and cost \$29,175.42, which equalled \$10,509.87 per mile. In addition to these, 8,507 sq. yds., or 0.967 miles, was made, of which part was macadam and part was gravel road, and a cost equal to \$2,851.29 per mile.—Good Roads Magazine.

Taxes	Cost</th
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with the deans of the agricultural colleges to arrange details concerning the distribution of these scholarship awards, beginning with the 1907 exposition.

The committee issued a call to the deans for a meeting to be held Friday, November 2, in the rooms of the Saddle and Sirloin Club, Union Stock Yards, Chicago. This meeting was attended by Professors Wilson, South Dakota; Nichols, Kansas; Kinzer, Kansas; Plumb, Ohio; Dalrymple, Louisiana; Wing, Cornell; Boss, Minnesota; Skinner, Purdue; Humphrey, Wisconsin; Mumford, Illinois; Curtiss, Iowa; and Messrs. Ogilvie, Leonard, and Skinner, showing a wide interest taken by the colleges in the generous scholarship fund to be presented by Mr. Armour.

In addition to those present, there were letters from the deans of fourteen other colleges, stating their inability to attend to present their views upon the subject.

The discussion, which was participated in by all, brought about the following plan of distribution, the scholarships to be divided among the colleges whose teams do the most efficient work in the students' judging contest, as follows:

For best work on horses, 1; cattle, 1; sheep, 1; hogs, 1; corn, 1; grains and feed and forage exhibit 1; for the college whose teams do the most efficient work in all of the classes, 1; thus providing for seven of the scholarships.

It was then agreed to distribute the remaining thirteen scholarships on the basis of cash prizes won by the colleges in the open classes for International Exposition money only, and the

"out here in Kansas," and what are our possibilities in the future?

KANSAS SIZE AND KANSAS SOIL.

Kansas is one vast undulating plain, a parallelogram, 400 miles long from east to west and 200 miles wide from north to south. Kansas landscape varies from modest grandeur to a monotonous, treeless, trackless expanse; a landscape which is at all times interesting, as it inspires to prophecy. Kansas soil is a marvel of fertility, barely equalled by the fabled valley of the Nile. This fertility is seemingly inexhaustible, for fields which have been in cultivation for thirty years without the application of fertilizer, still yield as abundantly as when first turned by the plow; a soil into which the Divine Alchemist has placed all the necessary ingredients in exactly the proper proportions, making it ideal for the production of the cereals, wheat, corn, and oats. Although Kansas is one of the younger States, having made nearly all her growth since the Civil War, and although her capabilities have been scarcely tested, two-thirds of her tillable area still being virgin prairie sod, yet she ranks first in the production of wheat and corn. No State but Kansas could in a single year produce three hundred bushels of grain for each man, woman, and child within her borders. Where, except in Kansas, can be grown in a single year and on the same ground a crop of wheat followed by a crop of corn?

KANSAS A PARADISE FOR THE GRAFTER.

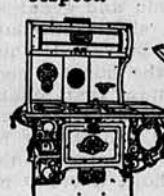
Is it a wonder that such resources invite exploitations and that Kansas has been a favorite field of the shark

New Stove Catalogue

Contains Stoves of Every Kind Sold Direct to the User at Lowest Prices. Our new line of heating and cooking stoves, for all kinds of fuel, made of new iron, in attractive patterns, with every known improvement and up-to-date feature, is ready for immediate shipment, at low prices, saving you $\frac{1}{2}$ to $\frac{1}{3}$ from the prices that others ask.

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Guaranteed
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Wood
Reservoir
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Wood
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Steel, Square Oven,
High Closet
Reservoir
\$17.40



High Closet
Reservoir
\$24.94



Coal or
Wood
Reservoir
\$11.96



Wood
Only
\$4.50



Coal or
Wood
Reservoir
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Stock Interests

PURE-BRED STOCK SALES.

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

November 16, 1906—G. M. Hebbard, Peck, Kans.
 November 17, 1906—Herefords, Henry Ackley, Wellsville, Kans.
 November 17, 1906—Poland-Chinas, Hammond & Stewart, Concordia, Kans.
 November 20, 21, 22 and 23, 1906—Blue Ribbon Sales of Shorthorns, Herefords, Aberdeen-Angus and Galloways at Fine Stock Pavilion, Kansas City, D. R. Mills, Des Moines, Iowa, Manager.
 November 23, 1906—H. E. Haynes, Olath, Kans.
 November 24, 1906—Duroc-Jerseys, Marshall Bros., & Stodder, Burden, Kans.
 November 24, 1906—Shorthorns, Hall Brothers & J. P. Newell, Carthage, Mo.
 November 27, 1906—L. C. Caldwell, Moran, Kans.
 November 27, 28 and 29, 1906—Shorthorns, Herefords and Aberdeen-Angus at South St. Paul, Minn. D. R. Mills, Iowa, Manager.
 November 28, 1906—Snyder Bros., Winfield, Kans. Poland-Chinas.
 November 30, 1906—U. S. Ison, Butler, Missouri Poland-Chinas.
 December 6, 1906—American Galloway Breeders' Association Combination Sale, Chicago, Ill.
 December 11-12, 1906—Imported and American bred Aerefords, James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.
 December 13, 1906—Hereford cattle at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
 December 14, 1906—Shorthorn cattle at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
 December 14-15, 1906—Dickinson and Marion County Breeders' Sale of Herefords, at Hope, Kans. J. B. Shields, Lost Spring, Kans., Secretary.
 December 15, 1906—Poland Chinas, Duroc Jerseys and Berkshires at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
 December 19-20, 1906—Webber, Apperson & Co., Tecumseh, Neb. Berkshires and Red Polled Cattle.
 December 18, 19, 20 and 21, 1906—Shorthorns, Herefords, Aberdeen-Angus and Galloway at South Omaha, Neb. D. R. Mills, Des Moines, Iowa, Manager.
 December 19, 1906—Herefords, E. R. Morgan Blue Rapids, Kans.
 January 9-11, 1907—Percheron, French Draft, Shire and Clydesdale stallions, mares and fillies at Bloomington, Ill. D. Augustin, Carlock, Ill., and C. W. Hurt, Arrowsmith, Ill.
 January 11, 1907—Grade Draft, Coach, Trotting bred, All Purpose and Saddle horses, mares and gelding, at Bloomington, Ill. D. Augustin, Carlock, Ill., C. W. Hurt, Arrowsmith, Ill.
 Jan. 17, 18 and 19, 1907—Shorthorns, Aberdeen-Angus and Herefords, South Omaha, Neb. W. C. McDavid, Mgr., Springfield, Ill.
 January 29, 1907—Grant Chapin, Greene, Clay County, Duroc-Jerseys.
 February 5, 1907—C. A. Cook, Salem, Nebr., Duroc-Jerseys.
 February 6, 1907—Wm. Brandon, Humboldt, Neb., Duroc-Jerseys.
 February 7, 1907—R. F. Miner, Tecumseh, Nebr., Duroc-Jerseys.
 Feb. 7, 1907—Ward Bros., Republic, Kans., Duroc-Jerseys.
 February 8, 1907—A. J. Russell, Crab Orchard, Nebr., Duroc-Jerseys.
 February 9, 1907—Poland-Chinas, C. O. Parsons Cleburne, Kans.
 February 12, 1907—Duroc-Jerseys, T. P. Teagarden, Wayne, Kans.
 February 13, 1907—Poland-Chinas, H. B. Walters, Wayne, Kans., at Concordia, Kans.
 February 18, 1907—J. B. Davis & Son, Fairview, Kans., Duroc-Jerseys.
 February 14, 1907—Poland-China bred sow sale at Abilene, Kans. L. D. Arnold, Route 1, Enterprise, Kans.
 February 15, 1907—Frank Dawley, Osborne, Kas., Poland-Chinas.
 Feb. 18, 1907—C. W. Taylor, Pearl, Kans., Duroc-Jerseys.
 February 19, 1907—Jno. W. Jones & Son, Concordia, Duroc-Jerseys.
 February 20, 1907—Poland-Chinas, Lemon Ford, Minneapolis, Kans.
 Feb. 20, 1907—J. E. Jones, Clyde, Kansas, Duroc-Jerseys.
 Feb. 21, 1907—Leon Carter & Co., Asherville, Kans., Duroc-Jerseys.
 February 22, 1907—J. C. Larrimer, Derby, Kans., Poland-Chinas.
 February 24, 1907—Poland-Chinas, Holmes & McDaniel, Edmund, Kans.
 February 27, 1907—Poland-Chinas, W. H. Bullen, Belleville, Kans.
 April 3, 4 and 5, 1907—Herefords, Aberdeen-Angus and Shorthorns, Kansas City, Mo., W. C. McGavock, Mgr., Springfield, Ill.
 May 1, 2 and 3, 1907—Aberdeen-Angus, Shorthorns and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.
 Improved Stock Breeders' Association of the Wheat Belt—November 14, 15, 16, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager; Dec. 5, 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 18, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

The Age of Hornless Cattle.

Dr. A. S. Alexander, veterinarian, Wisconsin Agricultural College, who understands breeds and conditions as few men do, writes an interesting article on hornless cattle to Live Stock Report, as follows:

"It seems inevitable that eventually all beef-cattle in America will be born hornless. It seems as certain that in time barbarous methods or artificial dehorning will, with hot iron branding, be made illegal.

"Horns are no more useful to the bovine than would be the five toes prehistorically possessed by the horse. The toes have been gotten rid of by nature, and gradually but surely horns are becoming less prominent features of modern beef-cattle. At the commencement of cattle improvement the longhorns speedily gave place to the Shorthorns, and soon 'Doddies' predominated in the north of Scotland while hornless Galloways were numerous in the southwest, and polled red cattle began to be popular in the middle and southern counties of England. Now the Shorthorn threatens to be displaced by the Polled Durham of double standard type, and there is a possibility that in time the horned Herefords of to-day will be displaced by the polled Herefords, now being fully fixed as a distinct breed with the necessary prepotency to dehorn their progeny from dehorned cows of their own breed."

DEHORNING.

"It appears evident that American cattlemen, feeders, shippers, and buy-

ers do not want horns on the cattle they handle. They cut them off by methods that are excruciatingly painful to the poor beasts and do not seem to approve early dehorning by the use of caustic, which method also causes much pain, as does the use of the barbarous horn-bud removing gouge.

BREEDING OFF THE HORNS.

"In many districts polled bulls of the Aberdeen-Angus and Galloway breeds are being used to do away with horns in the only proper and humane way, and faster and faster Polled Durhams and Polled Herefords must encroach upon the provinces of their horned brethren. There is no possible way out of such a conclusion and eventualty. So long as the 'single standard' Polled Hereford idea prevailed, there was little danger to the horned, pedigree Hereford; but now that 'double standard' polled Herefords have been found and perpetuated and it has become known that the bulls of this hornless type will dehorn over 90 per cent of their progeny there is nothing to prevent the rapid spread of the use of so valuable a departure from the old sort. All that will keep them back is lack of individual quality, but excellence in every particular will come in time with due care in selection and the gradual increase in numbers of Polled Durhams. As it is, we understand that some of the very best Hereford families are represented in the Polled Herefords of to-day, including descendants of Beau Real, Anxiety 4th, Hesiod, Garfield, Peerless, Wilton, Corrector, and others. Further, there can be no denying the fact that in individual excellence the Polled Durhams (Shorthorns) have been making rapid progress so that apart from the glamor of breed romance they should become popular and like the Polled Herefords, they have some good families eligible to registry in the Shorthorn herd-book. Of these, the most famous, of course, is that from which the new type sprang, viz., the Gwynns, from Oakwood Gwynne 4th, and her two hornless daughters, Nelly and Molly.

"Naturally the polled beef-cattle of the two breeds just referred to will be taken up by new beginners rather than those who own fashionable, pedigreed horned Shorthorns and Herefords, but in time the work of the 'little fellow' will tell upon the market, and as utility more than fashionable blood is fast becoming the predominant idea in cattle circles, the time must come when hornless beef-cattle will altogether replace the old horned type.

BLUE-GRAY.

"There can be little question, too, that what has been done with the Shorthorns and Herefords in the way of establishing types may be accomplished with each of the dairy-breeds. We do not advocate the 'single standard' idea, of establishing polled breeds, by which is meant the infusing of sufficient polled blood of an alien breed to dehorn the progeny and make the dehorned character prepotent. Such cattle can never become eligible to record in the herd-book of the pure-breed from which they sprang, and there is no need nowadays to go outside of the existing breeds in the establishment of new types, nor should the crossing of breeds be countenanced beyond single cross, such as that of the Galloway and white Shorthorn for the production of 'blue grey' feeding cattle. Were one to hunt the world around he doubtless could find a few naturally polled bulls and cows of the recognized dairy-breeds.

USE SPORTS.

"Such cattle, if known to be of absolute purity of blood with no possibility of an accidental outcross to a polled breed, are 'sports or nature' for which no explanation can be given. It was thought that such sports would not, when coupled, perpetuate their peculiarities or departures from the parental type, but experience with Polled Herefords has shown that this idea is wrong and that the progeny of a male and female hornless Polled Hereford 'sport' comes hornless with the power of stamping the peculiarity upon a large proportion of the progeny from horned cows. Granting that this is true, it then would be possible for any young man who has the means and enterprise to hunt up and purchase 'sports' of any of the dairy breeds and coupling them obtain a polled, double standard Jersey or Guernsey, Holstein, or Ayrshire breed. We do not know for a fact that there are any polled dairy-cattle of these breeds at the present time. We merely take it as highly probable that a sufficient number of hornless 'sports' of each distinct dairy-breed could be found in the world to establish a polled type of each, as has been done with the Short-

horn and the Hereford, and it would seem that such breeding would be well worth trying, seeing that horns are now considered such an unnecessary feature of modern cattle."

A Discussion of Certain Laws of Breeding.

"In this enlightened day biologists are making the world very wise about many things that have remained mysteries for ages. Sometimes they claim to reveal the secrets of things without presenting reliable evidence in support of their views. Sometimes they bring great confusion and lack of confidence by disagreeing among themselves. Sometimes they reach their conclusion too soon. In spite of all these tests of our faith, we must recognize and acknowledge our great debt to biology. The study of the problems pertaining to this science is of surpassing interest to the breeder of fine stock, and he can well become the helpmeet of the biologist. If the biologist has done nothing more than unravel the life histories of the many microscopic parasites that feed upon our domestic animals and teach us how we may fight them, we must admit that this work is indispensable to our success in stock-breeding. Within the year the life history of the stomach worm has been determined, and we are in a better position to fight this pest than ever before.

Certain laws of breeding have long been recognized by biologists, and the facts which stock-breeders have gathered through many years of experience have been so well explained that results may be obtained by the novice, if he will only follow the laws. These matters may become intensely practical to the breeder, and I desire to discuss them briefly in this letter.

THE LAWS OF INBREEDING.

"First, we will take up the laws of inbreeding, sometimes called 'line-breeding.' Inbreeding must be distinguished from simple cross-breeding. Every breeder recognizes the limitations of cross-breeding by seeking fresh blood all the time for his flock. In making a purchase of a ram the matter of kinship to the ewes is watched carefully, it having been long noticed that most unfortunate results may attend the use of rams too close kin to the ewes. Inbreeding involves the pushing of the breeding of certain related families to the limit. Great results have been obtained, but it is here declared to be most uncertain, and in the hands of an inexperienced breeder it is like handling sharp-edged tools. The facts of heredity are relied upon to guide the breeder to the desired results. The law that 'like begets like' is fundamental, but it has been found that an individual may contain a potency to transmit the qualities of a family more than appearances would warrant, and when it is once discovered that an individual may transmit more of the qualities of his parentage than are found in the individual, it becomes easy by crossing this individual upon its offspring to reproduce in striking measure the peculiarity of the parentage with astounding emphasis. The fact submits to very simple explanation, when the plan of individual development from cells of parents that partake of the nature of both parents is studied. I shall illustrate this form of breeding by using an extreme case which came under my own observation. This example shows that the law is inexorable and will work out its results even when they are most undesirable.

AN EXAMPLE.

"A pure-bred Shropshire ram was purchased by a neighbor from a reputable breeder. The ram was registered in the Flock-books of the American Association and showed a pedigree that was above reproach. The ram showed a light gray shade on each side of the nose, instead of the uniform brown of the standard. The gray was perceptible as a whitish line on either side of the face. There was no white on legs and no white specks on face. I have seen many Shropshires as far off color as this ram. The shape of the ram's body was not according to the standard. He was a Shropshire ram, but showed the marks of another breed, which had been used in the making of the breed—a white-faced breed, whose principal features had been left out by careful selection, but in the case of this individual had been continued through many generations with little diminution. Either this or some accidental admixture of foreign blood from a white-faced breed must explain the features found in the ram. The fact that he showed these peculiarities showed that he would be potent in reproducing these ancestral marks. I was not surprised to find his lambs more or less marked with white about

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faces and legs, although the ewes were true to Shropshire type. The shape of body was also transmitted. "Like begets like." Enough of the cells that made up this ram's body were like those of a white-faced parent to reproduce in his germ-cells a decided number of elements from this ancestor. These elements in the germ-cells were transmitted and in the offspring produced more features of the ancestry than were seen in the ram. By an accident this ram got into the field with his offspring, and it was hard to believe one's eyes when he beheld white-faced lambs, the progeny of this Shropshire ram and the dark-faced ewes descended from him, but there were not many, but enough to prove that the white-faced lambs were not mere sports. Inbreeding had done its work. Almost any desired feature may be wrought out in a flock by following this plan, but it must be remembered one runs the risk of producing it along with weakness that will render it useless. I have had enough experience with the breeding of Dorsets to know that the wide shoulders of the Southdown may be produced in a flock that is notably weak in this point. It takes careful study, time, and patience, but it can be done.

MENDEL'S LAW.

One more law of breeding we will discuss this time. This is Mendel's law. The statement of this law in scientific terms is difficult to follow, so I propose to make it clear by exam-

and no trace of black on the face will ever be seen. You say you don't believe it. Try it. If it is not so we want to know it and show that there is nothing in Mendel's law. It has not been done in sheep yet, but a recent experimenter who doubted the law tried it with white mice and grey mice and found it true. I have determined to try it with White Wyandotte chickens. The most desirable qualities go with a creamy plumage. This creamy plumage is dominant over snow white. A snow white cock will not produce a single snow white chick from cream-plumaged hens, but give me two of the offspring and one-fourth of the chicks will be snow white, and when these are bred together there will never again appear cream plumage. Let's all try it. The law has an explanation which can not be proven. Here is the explanation. Is it not ingenious?

THE EXPLANATION.

The ovary of the cow produces egg-cells that have only black elements and the testes of the bull produce spermatozoa that have only white elements. An egg and spermatozoon must come together to produce offspring and as the white and black elements are evenly divided in the union, the black will dominate and blue-gray hybrids are the result. In the ovary of a blue-gray cow the eggs become purified, there being a division made of the elements, so that half of the eggs are white and half are black. In the testes

tariff experts, selected for their special fitness from various Government departments, to proceed at once to Berlin and open negotiations with the German authorities looking towards mutual concessions in the interest of trade between the two nations.

This must be accounted a distinct victory for the friends of reciprocity and a recognition of the work of The American Reciprocal Tariff League, which will be very gratifying to all those concerned. We understand that both the President and the Secretary of State cordially agree that substantial concessions should be made to Germany in the interest of our Western farm-products, and that they hope that the appointment of this commission will be the entering wedge for tangible results later on. The names of the commissioners are for the present withheld, but the matter is an accomplished fact. One member of the commission, Mr. N. I. Stone, a firm friend of reciprocity, is already in Berlin on this business.

ALVIN H. SANDERS, Chairman,
American Reciprocal Tariff League,
Chicago, Ill.

Shall We Raise Goatskins?

Thirty-two million dollars' worth of goatskins were imported into the United States in the fiscal year 1906, against 10 million dollars worth in 1896, only a decade earlier. These are, of course, round figures, the exact figures of the Bureau of Statistics of the

Making Weight



The greatest weight at the least cost is the aim of the business farmer. It is a fact that the organs of digestion are accountable for every pound of weight and every ounce of milk produced. The question of increasing digestion was the aim of Dr. Hess when he formulated this famous prescription. From his experience, and such medical authorities as Professors Winslow, Quinlan and Finlay Dun, he learned that bitter tonics improve digestion, that iron was the greatest blood and tissue builder, that the nitrates were essential to heavily fed animals in throwing off the poisonous material from the system.

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the prescription of Dr. Hess (M.D., D.V.S.) contains the above ingredients, and will prepare animals for market in sufficiently less time to pay for itself many times over, besides curing minor stock ailments. Sold on a written Guarantee.

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YOUNG MEN WANTED

To learn telegraphy, Write J. G. TIGHE, care of Santa Fe Railway, Arkansas City, Kans.



Lavender Duchess 17th, to be sold with calf at foot in the Hall Bros. & Newell sale at Carthage, Mo., Nov. 22, 1906.

ples. Mendel discovered it in connection with the cultivation and improvement of sweet peas, in which case inbreeding could be carried through several generations. He discovered certain features that were dominant, so to speak, that is, they would show in offspring at the expense of other similar features. For example, one color would be dominant over another. In cattle black is dominant over white, and we may take an illustration of the law from cattle-breeding. If a pure white Shorthorn bull, one that has been bred from white ancestry through many generations, until the color is established, be bred to a black Aberdeen-Angus cow, there will never be produced a snow-white calf. The calves will be true hybrids, but will be rather dark than white. As a matter of fact, they will be blue-gray. Now, if two of these blue-grays are bred together, the offspring will be one-fourth snow white and three-fourths dark. If two of these white cattle, thus obtained, are bred together, their offspring will be all white. Never again will the black color appear. One-fourth of the get of the hybrids are pure blacks and these when bred together will produce only pure blacks. This law is of very general application, where a dominant feature in one sex may be matched against one that is not dominant. Either the dominant or the non-dominant feature may be reproduced in its purity. Thus a Hampshire ram may be crossed on a Dorset ewe. The lambs bred together will produce one-fourth pure white-faced lambs and, although a Hampshire ram was used at the start, the white-faced sheep thus obtained may be bred together forever.

of the blue-gray bull there is the same division in spermatozoa. When these individuals are bred, there are only three ways to produce offspring. First, from a union of a white egg with a white spermatozoon, results a pure white individual without black elements. Second, a union of black eggs with black spermatozoon, produces a black individual without white elements of any kind. Third, a union of a black egg with a white spermatozoon, and a union of a white egg with black spermatozoon, give the same result, a blue-gray individual, because of dominance of the black color over the white. A little arithmetic will show that this will explain beautifully the numerical relationship, accounting for that one-fourth that is a pure color. Manifestly, the pure white individuals produced by this plan could never produce germ-cells other than white as we supposed the black elements to be left out entirely. This is a pretty way of explaining how the feature of one side of a parentage may be lost entirely. We all know this to be a fact in certain instances. This remarkable law may be used in sheep-breeding to accomplish some very interesting results. I will leave it to your imagination to figure out the plans for some interesting breeding experiments. Mendel's law may solve for you some mysterious instances in your experiences as a breeder.—H. B. Arbuckle, in National Stockman and Farmer.

Commission to Negotiate Trade Relations with Germany.

EDITOR KANSAS FARMER:—You will be interested, I am sure, in hearing that the Government has within the past ten days appointed a commission of

Department of Commerce and Labor being, for 1906, \$31,773,909, and for 1896, \$10,304,395; but a statement that the value of goatskins imported in 1906 is more than three times as great as that of 1896 would be accurate and perhaps interesting.

Very few articles required for use in manufacturing show so rapid a growth in imports as goatskins, and few show so large a value. Hides and skins, as a whole, for example, which were valued at \$4 million dollars in 1906 were in 1896 valued at \$1 million, and when goatskins are deducted from this the growth in other hides and skins has been much less rapid proportionately than in goatskins. In India rubber, for which the demand has grown enormously under the stimulus of bicycle and automobile manufacturing, the value of imports has grown from 16½ million dollars in 1896 to 45 millions in 1906, the percentage of gain having been thus less than that of goatskins. This is also true of raw silk, of which the imports in 1896 were 27 million dollars and in 1906 54 millions, having barely doubled in the value of imports. Wool imports have grown in the ten-year period from 32 million dollars in value to 39 millions; tobacco imports have grown from 16 million dollars in 1896 to 22 millions in 1906, having thus increased less than 40 per cent in the period in which goatskins were trebling in the value of their imports.

The only important article of manufacturers' materials showing a more rapid gain than goatskins in imports is pig tin, of which the value imported has grown from a little less than 7 millions in 1896 to practically

\$1 millions in 1906, having thus more than quadrupled. The total value of goatskins imported into the United States since the beginning of the fiscal year 1896 in a crude form (omitting those imported in the form of leather or kid gloves) is 240 million dollars, and practically every year shows an increase over the figures of the preceding year, both as to quantity and value.

India is the largest contributor of this important article of our imports. The value of goatskins imported into the United States from India has grown from less than 2 million dollars in 1896 to 11 millions in 1906, and forms the largest item in our imports from India with the single exception of "jute bagging, burlaps, and other articles manufactured from fibers." China, Brazil, Mexico, Russia, France, and the United Kingdom are also considerable contributors of the 32 million dollars' worth of goatskins entering the commerce of the country last year. Aden, a rocky point at the southern extremity of Arabia, also supplies to the United States over a million dollars' worth of goatskins annually, drawing this product in part from Arabia and in part from the shores of east Africa, which are readily accessible just across Strait of Bab-el-Mandeb.

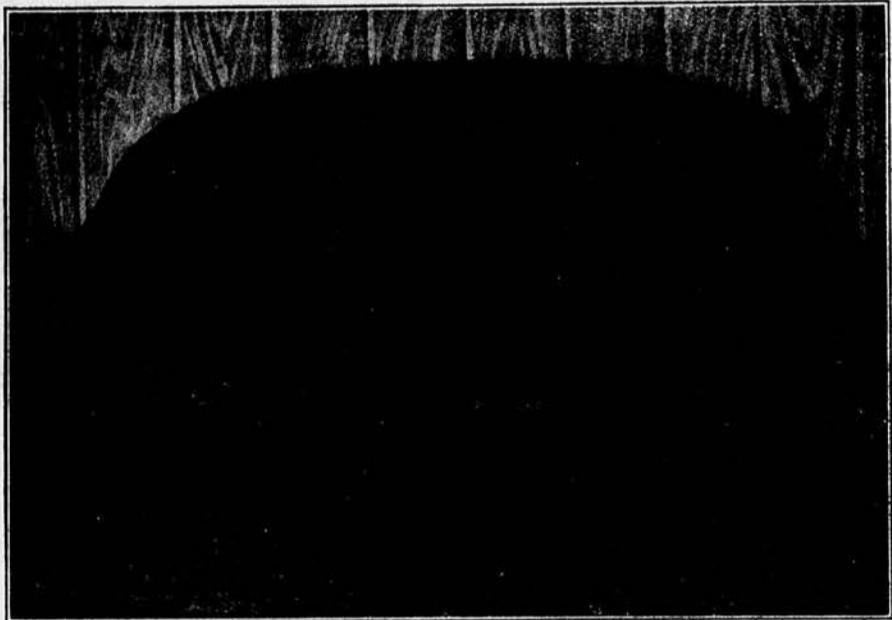
A very large proportion of the 32 million dollars' worth of goatskins imported into the United States comes from tropical or subtropical countries. India, Southern China, Oden, Arabia,

say 'Get up,' at the same time giving the colt a push. In a little while he will learn to obey every command. He can be taught to back by saying 'back,' at the same time pushing him back. When he obeys, give him an apple or a little sugar or salt. By working this way you will be surprised to see how soon he will obey you.

"When going to the pasture I generally have a bite of something for the colts. In training them in this way they expect something when they see me, and they are never hard to catch, or never seem to dread or fear man.

"In teaching the colt the word 'whoa,' I do it by holding; or tie the dam and then tie the colt near her. After he has quit struggling, I say, 'Whoa,' at the same time rubbing him. In a little while he will learn when you say 'Whoa' that it means stop.

"When breaking the colt to work I put harness on with ropes in the traces. Having some one to lead, I get behind and say 'Get up,' when my helper leads him forward; at the same time I give the traces a slight pull. If the colt frets or gets mad, I cease pulling until he is quiet; then I commence again. In this way the colt gets used to collar pressure and goes quietly. After breaking in this way, I hitch to something heavier, always being careful not to get him fretted. In working colts, I never get in a hurry, or pull a load but a few steps without letting them stop and rest. I find a



Head of Duroc Herd at Buchanan Farm, Sedalia, Mo.

Brazil, Argentina, Mexico, Southern Russia, and Turkey are large contributors of this article to the imports of the United States, while a large proportion of the more than 2 million dollars' worth brought from France is supplied by her colonies of Algeria and other points in Africa, India, and the eastern coast of Asia.

The following table shows the quantity and value of goatskins imported into the United States in each year from 1896 to 1906:

Fiscal year.	Quantity. Pounds.	Value.
1896.	46,747,029	\$10,304,395
1897.	49,868,020	11,328,162
1898.	64,923,487	15,776,601
1899.	69,728,945	18,488,326
1900.	81,998,818	21,987,674
1901.	73,745,595	20,577,033
1902.	88,038,516	25,478,179
1903.	85,114,070	24,928,729
1904.	86,338,547	23,971,731
1905.	97,803,571	26,945,721
1906.	111,079,391	31,773,969

The following table shows the principal countries from which goatskins were imported into the United States during the fiscal year 1906:

British India.	\$10,831,178
Chinese Empire.	3,231,930
Mexico.	2,526,509
France.	2,040,076
Aden.	1,695,026
Brazil.	1,624,844
United Kingdom.	1,415,001
Argentina.	1,335,599
Russia in Europe.	1,267,803
Turkey in Europe.	778,171
All other countries.	5,027,772

Total. \$31,773,909

How to Have Gentle Horses.

The colt should be trained so that he will not need any breaking. A writer tells, in Farm and Fireside, how he manages:

"I always have good, gentle horses. The first lesson is given when the colt is just a few days old. I tie the dam so as not to be hindered by her. I catch the colt and hold him until he gets quiet and over his scare. Then I place one arm around the neck near the body and the other behind hips where the breeching works, and then

light sled or a drag the best thing to hitch to. I hitch them to a sled, giving a side pull about a step or just enough to move it sideways a little, and next time I go a little farther, and when they will move it readily to either side, then I pull it endways, being careful not to pull too far. When the colt seems willing to pull any way I put on a light load and increase as circumstances will allow. After the colt has learned to pull, I teach him to drive. This can be done easily by having the helper turn right and left, at the same time pulling the line in that direction. In a short time the colt will turn without being led."

"In breaking the colt to ride I find it a good plan to leave him tied in the stall, and put a small boy on, holding him carefully. Do not throw the boy on or get the colt scared. Let the boy rest his legs on the colt's side or back at first, and slip him on as the colt quiets down. When the colt is quiet, lead him up and make him back, where he is tied. When broken in this way, he can be taken from the stall and led."

Competition at the International.

The dean of the college of agriculture in one of our leading agricultural States should be well equipped to advise as to the value of the great exposition to the country generally, and to his State in particular, therefore, to give the benefit of expert testimony to the American people, Dean Curtiss, of Iowa Agricultural College, was asked to write an article on the International, and here follows:

"The educational influence of a great live-stock show, such as the International, can not be fully estimated. The success of the International has been phenomenal. Each year it appeals to a wider constituency. It is truly international in its scope. The magnitude and excellence of its exhibits has been a marvel to foreign visitors. The magnificent new pavilion was overtaxed the first year, and the ring has

Profitable Stock Feeding

By H. R. SMITH, of the Nebraska Experiment station, is a winner.

A second and larger edition has just been printed. It has been adopted as a test-book in the Agricultural colleges of Twenty States. As a compendium of facts for the farmer it is universally pronounced to be the best book of the kind ever printed. It is more fascinating than a novel to all interested in the feeding and judging of live-stock. It contains more than 400 pages of clear cut information concerning the feeding of Cattle, Horses, Hogs, Sheep and Poultry. The parts devoted to judging animals are profusely illustrated. Bound in Vellum de Lux; printed on the best grade of paper.

Price, Postage Paid - - - - \$1.50.

In order that this book may have a wide distribution The Kansas Farmer Company makes the following special offer, good until January 1, 1907:

Profitable Stock Feeding - - - - \$1.50

One Renewal Subscription to The Kansas Farmer - \$1.00

One New Subscription to The Kansas Farmer - \$1.00

Total - - - - \$3.50

ALL FOR \$2.00.

Address, THE KANSAS FARMER CO.,

625 Jackson St.

Topeka, Kansas

been extended to make room for the coming show. No other show on either continent brings together such an array of superior breeding stock and prime animals fit for the block, as may be seen at this show. This feature is particularly interesting and instructive. The block test furnishes the final proof of excellence and affords a standard to measure the value of types and breeds. This is the one great contest where breeds meet in competition after individual excellence has been measured within the breeds.

"A feature of marked interest in this battle royal is the work of the foreign judge, who annually passes on the championship classes. For this exacting task, the most competent judges of Great Britain have been selected. Sheep and swine measure strength for supremacy in the show-ring and on the block. In the carload classes, the competition is equally as sharp and here again, animal excellence is measured by the practical standard of market demands.

"Probably the keenest and most inspiring battle of the show is seen when the great draft horses in harness, of all breeds and all countries, meet on the tan bark, clad in the armor of peaceful though mighty warfare. It is this final challenge of the best of each breed, and of breed to breed, in the form of an ultimatum following the scrimmages down the State fair circuits, that gives an intense interest to International rings. The 1906 International promises to be, in every way, a fitting climax to a show season of unparalleled records."

Government Hog-Cholera Remedy.

The following is the Government hog-cholera remedy:

Pulverize and mix thoroughly:
1 part wood charcoal
1 part sulfur.
1 part sodium chloride (salt).
2 parts sodium bicarbonate (soda).
2 parts sodium hyposulfite.
1 part sodium sulfate.
1 part antimony sulfate.

Dose, 1 tablespoonful for each 200 pounds weight of hog once a day.

Last Call for the Kansas City Hereford Sale, November 21.

U. S. Campbell, of Bates City, Mo., has catalogued for the coming Blue Ribbon sale, to take place at Kansas City next Wednesday, November 21, some most excellently bred cows. They are daughters of Beau Brummel (he by Don Carlos), Andrew (another son of Don Carlos), the champion Dandy Rex (a double grandson of Don Carlos, having for sire the great show bull, Lamplighter), Applause (by Free Lance, grandson of Anxiety 4th and Lord Wilton). The dams of these cows are equally well bred. One is a daughter of Anxiety 4th; another a daughter of Beau Brummel; still another a daughter of the great Cherry Boy and one by Earl of Shadeland 47th. Better breeding than this can not well be found in the books. W. G. Swinney, of Bois D'Arc, Mo., forwards one 3-year-old cow whose breeding deserves investigation. Her sire was a grandson of Lamplighter and her dam traces to Hesiod, Juryman, and Earl of Shadeland. This cow is bred to Dale Jr. S. L. Standish, of Hume, Mo., also presents a lot of splendid breeding in the females which he has contributed to this sale. There are daughters of Meadow Lad (he by the great St. Louis), of Columbus 47th (by Columbus), and Bernadotte 3d (grandson alike of Statesman and Don Carlos). Many of them are with calf by the champion Onward 4th. C. N. Moore, of Lees Summit, Mo., sends a couple of splendid heifers by Beau March On (grandson of the great and only March On); dams by Cassio (grandson of Anxiety 4th). Both of these are described as very fine heifers and certainly their breeding could not well be improved upon. J. W. Lenox, of

Independence, Mo., sends forward one yearling heifer by Dandy Andrew that is exceptionally attractive because of the combination of Don Carlos blood which the pedigree affords. Her sire was a grandson of Lamplighter and a double grandson of Don Carlos. Her dam traces largely to the same source. One of the females on the side of the dam, Lady Laurel, was twice sold for a thousand dollars. There are a lot of other good females in this offering. They are fully described in the catalogue, for which address Dan R. Mills, sale manager, Des Moines, Iowa.

McLaughlin Bros.' Stallions.

On page 1080 of THE KANSAS FARMER issue of October 18 was printed a picture of the most wonderful group of black Percheron stallions ever seen together in America if not in the world. They belong to McLaughlin Bros., of Kansas City, Columbus, and St. Paul. This group of stallions has made a record this year that has never been equalled. To begin with, they won every first prize offered for Percherons at the Great Central Show of Paris. Then they followed by taking every first prize at the annual show of the Societe Hippique Percheronne. Then came their importation to this country and their grand round of victory at the State and National fairs and shows. They have won first prizes and championships at the Iowa State Fair, the Interstate Live Stock Show at St. Joseph, Mo., the Ohio State Fair, the Missouri State Fair, and the American Royal. Included in this group is the great Etrlegant, who won first and championship at Des Moines, Columbus, Sedalia, and Kansas City, and who is the most perfect type of Percheron stallion ever imported to America, according to the judgment of men of great knowledge and long experience. What Etrlegant did for the Percherons was duplicated for the French Coach breed by Chandernagor, who belongs to the same owners. Chandernagor is considered by excellent judges to be superior to the World's Fair champion, Torrent.

In the week following the American Royal, Chandernagor and his mate won first and second prizes at the Kansas City Horse Show. All these horses are for sale. The great number of prize-winners of both these breeds that are now offered for sale by the McLaughlin Bros. is without parallel in the history of the business. If you want to see some of these horses, go to the stables at 18th and Vine Streets, Kansas City, Mo. It will pay.

A Valuable Purchase.

The recent purchase of the saddle stallion, Greatland 1408, by J. F. Cook & Co., of Lexington, Ky., and Newton, Kans., is one of the most valuable acquisitions to their stud. Few if any saddle stallions of his age and opportunity have equalled his record as a sire. In Jack Starbright, who is one of his colts, the undefeated yearling of 1906, winner at the State fair and at all of the fairs in the Kentucky circuit, his reputation should be sufficient. It is doubtful if this colt has had a superior in the yearling class in recent years. Greatland is also the sire of Miller Mc., a 2-year-old colt that created quite a sensation in Texas by taking all of the blue ribbons shown for.

Considering the fact that Greatland was in Illinois for two years, with little or no chance at the stud whatever, his success is more remarkable. A son of the renowned Highland Denmark 730, he is regarded by many as the best producing son of that great sire. His dam is Catherine Denmark 536, by Fayette Denmark 60, second dam Pattie S. by Diamond Denmark 68, third dam Fannie by Basil Duke.

This young stallion will be placed at the head of the stud of Cook & Co., which includes a band of high-class and well-bred brood mares.

The Great Missouri Agricultural Meetings.

Secretary Geo. B. Ellis, of the Missouri State Board of Agriculture, writes THE KANSAS FARMER as follows:

"The many readers of your paper will doubtless be interested in the meetings of Farmers' Convention Week to be held in the Agricultural College, Columbia, January 7-12, 1907.

"The Improved Live-Stock Breeders' Association, the Missouri Corn-growers' Association, the State Dairy Association, the Sheep-Breeders' Association, and the Missouri State Board of Agriculture will join hands to hold the greatest farmers' convention that

has ever been held in this State. The program is now being arranged and promises to be even better than the very interesting program rendered last year during the same week. Special demonstrations are being arranged in the departments of agronomy, animal husbandry, horticulture, veterinary science, dairying, and soil survey, which we hope to make very attractive and instructive to the farmers who may attend the convention. Premiums amounting to nearly \$1,000 will be offered for the exhibits at the corn show, and ample premiums have also been provided for the exhibits at the State Dairy Show.

"Every farmer should take an occasional holiday, particularly if he can combine pleasure with profit; and we do not think a week can be spent with more profit anywhere than in the Agricultural College during this convention. I hope every farmer will remember the date and arrange to spend at least a day or two with us during the meeting."

The Lincoln Importing Horse Company.

Stallion-buyers will be pleased to learn that the old, reliable Lincoln Horse Importing Company, of Lincoln, Neb., has just imported some of the best horses that it has ever brought to this country.

This company has long been recognized as one of the foremost importing institutions of the country, and the statement of the manager, A. L. Sullivan, that this year's importation is one of the strongest he has ever brought over, means much to the fellow who is looking for good horses, because those who are acquainted with Mr. Sullivan know that when he makes a statement of this kind he has the goods to back it up. At the Nebraska State Fair this year, this company was one of the leading exhibitors, and in the list of awards its name appears many times and included among other premiums first and sweepstakes on Shires and over Clydesdales, first and sweepstakes on German Coach and over French Coachers, second on stallion over 3 and under 4, first on stallion 3 and under 4, first on 4-year-olds, and many other lesser prizes. This company is prepared to fit buyers out on Percherons, Belgians, English Shires, and German Coachers, and no one who wants a stallion should buy until he has been shown the importation of this company. When you go to Lincoln, take the State Farm car and ask for Mr. A. L. Sullivan, the manager of the company, who will be pleased to show you the stock.



Ragoleur.

Prize-winning Percheron stallion at the American Royal. Recently sold by J. W. & J. C. Robison, Towanda, Kans., to John & J. W. Smith, Wellsville, Kans. Photo taken at his home by the Kansas Farmer Man.

Lynch's Ohio Improved Chester Whites.

We start the card of W. H. Lynch, of Reading, Kans., in this issue of THE KANSAS FARMER.

Mr. Lynch has an exceptionally choice lot of this excellent breed of swine. He has 40 April and May boars and gilts for sale, sired by the famous Pomona Chief 8614 and Teddy Boy 14368. His stock is in excellent condition for breeding purposes, having been raised largely on pasture and such feed as goes to make bone and muscle.

Mr. Lynch has recently added to his herd the celebrated boar, Jackson Chief 2d 12285, first-prize winner and champion at the American Royal, 1906, and son of Jackson Chief, champion at the World's Fair, 1904; and sow, Mabel 10679, second-prize winner at American Royal, 1906; also Maud S. from Jackson Chief 2d, who has been bred to Pomona Chief.

Sunnyside Herd, now numbers 90 head, with 20 good, rangy sows, that are being bred to these famous boars, thus insuring a splendid crop of early spring pigs. Mr. Lynch can furnish single lots, pairs, and trios, with gilts bred or open.

Write him at once for description and prices, which will be reasonable, considering the kind of stock he has to offer, or better still, go and see them.

When writing, please mention THE KANSAS FARMER.

A Great Illinois Horse Sale.

At Bloomington, Ill., on January 9, 10, 11, 1907, will be held a great sale of Percheron, French Draft, Shire, and Clydesdale stallions, mares, and fillies; also trotting-bred, all-purpose, and saddle horses and mares and geldings. The first two days will be devoted to the sale of the draft breeds and the third day to the other breeds.

These horses are consigned by the oldest breeders in Illinois, and are out of the best families and show herds. Some of the sale stock were prize-winners at St. Louis and at Springfield in 1905. This will be one of the largest sales of pure-bred horses ever held in that State and, in addition, there will be offered a nice bunch of grades.

Remember that the draft breeds sell on January 9 and 10 and the other breeds and the draft grades on January 1. This sale will be managed by C. W. Hurt, Arrowsmith, Ill., and D. Augustin, Carlock, Ill., either of whom

will be glad to furnish information. Mention THE KANSAS FARMER and write them.

The Wiswell Jack Sale.

Mr. John Wiswell's sale of jacks, jennets, Percheron and trotting stallions, mares and colts at Columbus, Kans., on November 3 was a great success. Buyers were present from Illinois, Missouri, Oklahoma, Indian Territory, Colorado, and Kansas. Col. R. H. Harriman, of Bunceton, Mo., conducted the sale and stated that the crowd assembled was one of the most representative he ever saw. Every jack, except a 5½-months-old colt that was not catalogued, was sold. This colt was said to excel in quality any colt seen this year, not excepting the grand champion jack colt at the Missouri State Fair. The jennet stock sold cheap, though Mr. Wiswell retained six head for which he was offered long prices. Only two jacks remained in Cherokee County. The two Percheron stallions were snapped up at good prices.

It is now understood that some Illinois breeders desire to join with Mr. Wiswell and hold another sale some time in the winter.

He was highly complimented for the straightforward manner in which he conducted this sale, and the reputation he thus made will be of immense value to him in future sales.

Kansas City Daddies, November 23.

Any one needing a Blackbird herd-bull should not overlook Proud Blackcap of Balwyllo 58914, a royally bred bull of the noted Blackbird strain of the aristocratic Blackbird family. His outcrosses are "par excellent;" his sire a double-bred Pride of Aberdeen by Pride of Albion, renowned sire of the breed. Better breeding than revealed in this tabulation is not to be found. He is consigned by Martin and Carlos, Greenfield, Iowa. Those seeking females can secure just what they need in the consignment of R. P. McClellan, of Olathe, Kans., there being a large number of them bred in the purple, including some show material among the young females. The bulls consigned by Mr. W. A. Holt, Savannah, Mo., and Mr. V. E. Lawrence, Salisbury, Mo., are good ones and will not disappoint prospective buyers.

Catalogues upon application to D. R. Mills, sale manager, Des Moines, Iowa.

Bell's Poland-China Sale.

One of the most successful Poland-China sales which has been held this year was the one held at Beattie, Kans., last week by B. M. Bell. The offering consisted of fifty head of individuals that were as fine as anything which has been driven through the sale-ring this year, some of them being of March 1 farrow and weighing nearly 275 pounds. The top of the sale was a young boar sired by Bell Metal, a son of old Expansion. He went to Howard Reed, of Frankfort, Kans., at \$120. The boars averaged \$31.40 and the gilts, \$40, and the average on fifty head of young boars and gilts was a trifle less than \$35. The complete list of buyers is as follows:

C. W. Nevius, Chiles; Leslie Harvey, Chiles; Cleve McCoy, Beattie; W. E. Smith, Oketo; E. A. Berry, Waterville; Ernest Hawley, Beattie; John A. Peterson, Vermillion; J. C. Christensen, Manhattan; H. Farrer, Axtell; Geo. Hull, Burchard, Neb.; Geo. Goldsmith, Chas. McCoy, S. P. Husey, Geo. Eichleberger, Wm. Ingalsbe, A. B. Garrison, Hawk Bros., John Swanson, Leslie Haney, Harry Flinnegan, all of Beattie; G. W. Weltse, Dawson, Neb.; T. B. Cradall, Wetmore, Kans.; Wm. O'Connor, Frankfort; A. T. Graves, King City, Mo.; J. Minnehan, Summerfield, Kans.; J. Gibbs, Hiawatha; W. P. Fulton, Waterville; Jas. Rush, Axtell; W. E. Willsey, Steele City, Neb.; W. Horricon, Waterville; W. R. Stump, Frankfort; Howard Reed, Frankfort; G. A. Rolfe, Wetmore; Wm. Lewis, Home City; John Johnson, Frankfort; O. Warrensburg, Waterville.

Gossip About Stock.

O. A. Lamb, of Fall River, Kans., announces a public sale of Poland-Chinas to be held at his farm on November 30, at which time he will sell fifty head, mostly spring pigs and tried brood sows, some with litters at side. Watch for further announcements.

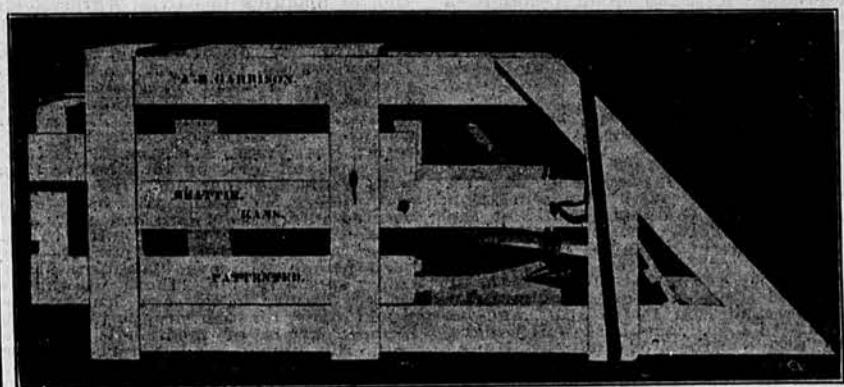
The Pride of Nebraska is the name of a new incubator made at Sutton, Neb., and from what we can learn it is a machine of much value. The owners are equipping a new factory with modern machinery and expect to get their share of this year's business.

One of the oldest breeders of Kansas—a man who has bred Shorthorn cattle for more than thirty years, and who has held an annual sale nearly as long—says: "I think Col. L. R. Brady, of Manhattan, Kans., is the best livestock auctioneer in the State and, with perhaps one exception, the best in the West anywhere." As Colonel Brady has made the annual sales for this breeder for several years, it will be seen that the genial colonel has at least one pleased customer.

A splendid opportunity to buy Percheron horses at your own price is afforded you at the eighth annual sale of Lakewood Percherons at Sioux City, Iowa, on Wednesday and Thursday, December 12 and 13, 1906, at which time there will be sold 100 head of registered stallions and mares, including Iowa State Fair winners. The owner, H. G. McMillan, Rock Rapids, Iowa, says the stallions are a grand lot and by far the best he has ever offered. Write him at once for catalogue.

If you are looking for a good boar, it will pay you to write Roberts & Harter, who are advertising their Durocs in this paper. Here is undoubtedly one of the best herds on Nebraska soil, and a finer lot of spring boars and gilts no man ever saw. Great, big, thrifty fellows, sired by Crimson Jack 30611 and other good sires, they are good enough to head any one's herd. This firm had over fifty boars at the beginning of the season, and while they have sold a great number, they have

Do You Need a Breeding Crate?



My Crate is used and endorsed by the leading breeders of the country. It is strongly built and easy to operate. Price, \$15.00 f. o. b., Beattie, Kans. Circulars free, which fully describe it.

A. B. Garrison, -- Beattie, Kans.

U. S. ISON'S ATTRACTION SALE Butler, Mo., November 30, 1906.

60 — HEAD POLAND-CHINAS — 60

4 boars and 3 sows by Chief Perfection 2d; 3 boars and 3 sows by Corrector 2d; 3 boars and 2 sows by On and On; 3 sows by Spellbinder out of a Perfection E. L. dam; Dispatcher 2d and his litter sister out of Lady Corrector. Watch him for herd header. Other great things by Dispatcher out of Goldfiner, a litter mate to Corrector 2d, also Lady Gold Dust, who was at Sedalia, winning ribbons with Dispatcher. Also a lot of her half and full sisters, just like the Corrector 2ds. A great Keep On sow, open. Another by Mischief Maker and more of the same kind of breeding, all of unusual merit. Be sure and get catalogue by addressing

U. S. ISON, -- Butler, Mo.

Auctioneers: Cols. Sparks, Snyder and others.

many good ones left and are pricing them at from \$25 to \$35, which is as low as any one can sell a good purebred. Write them and mention THE KANSAS FARMER.

Mr. John Tough, of Lawrence, Kans., has the old Bismarck Fair Grounds, which he has arranged to make into a sheep-feeding station, about December 1. He has therefore concluded to sell his entire herd of Shorthorn cattle, numbering 100 head on November 30. He promises to have full announcements in next week's issue of this paper. This will be a great opportunity to buy Shorthorns at right prices and at the same time get some good ones. It will be the best chance of the year.

Breeders of White Wyandottes should not fail to write G. A. Wiebe, of Beatrice, Neb., for his catalogue of this popular breed of chickens. Mr. Wiebe is one of the leading fanciers of Nebraska and has shown at all the leading shows of the West. His string of ribbons is a long one. THE KANSAS FARMER fieldman recently visited this poultry farm and was surprised at the quality of his breeding stock. For color, size, and general uniformity as a flock, they are hard to beat. Write Mr. Wiebe for his beautiful catalogue. It is free.

L. C. Caldwell, Moran, Kans., will sell a good draft of Poland-Chinas from his Rockwood Herd at that place on November 27. This draft is by his good boars, Stylish Lad, On and On, Pacemaker, and other good boars. The offering also includes three yearling On and On sows, besides a number of the other good herd-sows. Moran is a good railway center, and Mr. Caldwell especially invites breeders to attend and will take pleasure in entertaining them sale day. If you can not attend, send bids to John D. Snyder and same will be handled carefully and in your interest.

Mr. Peter Reber, of Neosho Rapids, Kans., whose advertisement appears in this issue on page 1223, has been breeding Barred Plymouth Rocks for fifteen years. His birds are certainly as fine a lot as the writer has ever seen. They are all free range stock barred to the skin, prize-winners or from prize-winners. Mr. Reber has exhibited at the State and county poultry shows for years, and has never failed to carry off the greatest number of prizes awarded on his kind and class. If you want some of these fine cockerels, write him at once, for they won't last long. When writing, please mention THE KANSAS FARMER.

A glance through the catalogue of Hall Bros. and J. B. Newell's sale, to be held at Carthage, Mo., November 22, tells the story of a splendidly bred lot of cattle, and when we recall the magnificent show-herds of 1906 from Shadwell, some idea of the quality of the offering can be imagined. The offering contains many animals of much more than ordinary merit. The place

of the year to secure good ones is Carthage, Mo., November 22. Any herd would be proud to possess a calf by Master of The Grove or Choice Goods Model, and in this sale can be had cows with calves at foot or with calf by these sires. Come to this sale and arrange to attend that of H. E. Hayes, at Olathe, the day following. Get catalogue, for it is interesting.

H. E. Hayes, at Olathe, Kans., in selecting the draft for his sale, in order to get forty head had to put in some very valuable cows and heifers, animals that he will undoubtedly have to replace at a much higher cost than these will sell for in the sale of November 23. This entire offering possesses more than ordinary merit, especially the female portion of the offering, a number of which we would like to mention, but the catalogue gives the information so nicely and so much better than we could do it in the space at command. We urge all interested in good Shorthorns to write Mr. Hayes for catalogue. There are a number of choice young bulls, those by Lord Banff 2d being extra good. Write to-day for catalogue and get ready to attend the circuit, November 22 at Carthage, Mo., and November 23 at Olathe, Kans.

U. S. Ison, Butler, Mo., bought last year some of the best bred sows in the Eastern sales. He will sell their litters in his sale, November 30, 1906. One fine litter of seven by Old Chief Perfection 2d, another by On and On, some great ones by Spellbinder, a splendid litter by Corrector 2d, a fine lot of Gold Finder fall gilts, and some Missouri State Fair winners are among them. (Gold Finder is litter mate to Corrector 2d and his equal as breeder). These sows will be bred to Dispatcher by Chief Perfection 2d out of the \$1,070 Beauty Perfection's 1905 litter. Dispatcher was himself a Missouri State Fair and Royal winner, and has in Dispatcher 2d out of Beauty Corrector one of the best prospects for a 1907 winner we know of. Look well to him and his litter sister and the other choice things out of Gold Finder dams. These stamp Dispatcher as one of the great breeding boars of the West. Other choice sows will be included by Keep On, Mischief Maker, etc., and a great boar by Impudence not mentioned in the advertisement. Get catalogue by addressing U. S. Ison, Butler, Mo.

J. C. Day & Son, Route 2, Superior, Neb., breeders and shippers of Duroc-Jersey swine and Shorthorn cattle, state that their hogs are doing nicely and that trade is good, with many inquiries. They have culled the herd thoroughly and reserved only such hogs as they would be willing to use in their own herd were they not related. These spring pigs weigh around 200 pounds, in their plain business condition, but if they had been pushed a little they would have weighed at least 100 pounds better. Day & Son breed the big-boned, growthy, early-maturing kind, with plenty of finish, and they make a very attractive price on

them. The young Shorthorn bulls are coming along in fine shape and will be in excellent condition when the season opens. Mr. Day says he has plenty of postage stamps with which to answer any and all inquiries in regard to either Duroc-Jerseys or Shorthorns and will take pleasure in using them if you will only write. Sows and gilts will be bred to a grandson of Orion or a line-bred Crimson Wonder boar, which was good enough to take first prize and sweepstakes at the local fair, if desired. Write about these hogs and cattle.

One of the lucky young men in the breeding business is Jas. A. Carpenter, of Carbondale, Kans. The foundation stock for his Hereford herd was obtained from his father, who was an old-time breeder. With this foundation and with Beau Gondoulois 133277 at the head of the herd, Mr. Carpenter was successful in raising good cattle. Recently he purchased the herd formerly owned by the late Louis Hothan, of Carbondale, which was largely Beau Brummel and Don Pedro stuff and he then added a Princeps herd-bull bought from Steele Bros., of Belvoir, Kans., and his success was assured. His use of the Princeps bull on Tom Reed and Beau Gondoulois cows has produced some very fine calves, some of which are now for sale. There are about 30 young bulls and heifers that are now ready for sale and they are of such a variety of good breeding that the customer can easily suit himself. These calves are now in fine condition and of good quality and scale. Most of them are March and April calves, though a few were dropped in May. Mr. Carpenter has the breeding and the quality, and those who want good Herefords at a reasonable price should see or write him.

There is a fine lot of herd-leading material in the Fairview Shorthorn herd, belonging to Purdy Bros., Harris, Mo. Not only are these cattle good ones, but they are prize-winners or came of prize-winning blood. They do not show at county fairs, but at the great expositions and State fairs, where they come in competition with the very best Shorthorns in the land. Most of these cattle are pure Crickshanks, but any one who is searching for a mixed-bred bull will find something to please in the two Rose of Sharon bulls sired by Orange Monarch 190181, who is considered one of the best bulls in America, and who sired the Purdy Bros.' calf herd and most of their breeders' young herd that showed at the American Royal this year. These Rose of Sharon bulls are perhaps the blockiest bulls ever bred at Fairview, and one of them was a prize-winner at the Royal last year. Then there are scions of bulls sired by Lord Lovel 130157 that are also prize-winners. One of them was a winner at the International at Chicago last year and is a good one. These bulls have all been used in the Fairview herd and are now for sale. Ask about them. They are worthy of a close acquaintance.

On Saturday, November 24, at Burden, Cowley County, Kansas, there will be held a great sale of Duroc-Jersey swine. This sale is made by Marshall Bros. and J. F. Stodder, both of Burden, and both well known as breeders of the highest class of Duroc-Jerseys. The offering will consist of 30 boars and 20 sows that were sired by Mac's Pride, May Boy, Missouri Wonder, Wonder Improver 2d, King Wonder, and King B. They are strong in the blood of the great Missouri Wonder and are of the heavy-boned kind that combine quality and scale. Such rich breeding is not often found in the sale rings. The dams are of equally rich breeding and many of them are prize-winners. The Spring Hill Herd of Marshall Bros., and the Silver Creek Herd of J. F. Stodder, have been drawn upon for their best in making up this offering and the opportunity for buyers will be a great one. Everything will be done for the comfort of the buyers; free entertainment at the Commercial Hotel, and the sale will be held under cover at the Fair Grounds regardless of the weather. This will be one of the very few opportunities to secure animals of these famous blood lines and the crowd in attendance ought to be very large. If you can not be present, send your bids to Col. Lafe Burgen or Col. John D. Snyder, in care of J. F. Stodder, and they will be taken care of in good shape.

The annual auction of Aberdeen-Angus cattle at the International, Chicago, under the auspices of the National Association has been an interesting and attractive feature to all admirers of this breed since the establishment of this show. It is the last great show of the year, and numerous champions and prize-winners have been auctioned in these sales held in connection with the exposition. This year the sale will be held on Tuesday, December 4, and there seems to be every prospect that the offering will be fully up to the standard of its predecessors. Leading breeders are consigning and quite a number of herds-bulls and show animals of both sexes are catalogued. The consignors are C. J. Off, Peoria, Ill.; D. Bradfute & Son, Cedarville, Ohio; Jacob Larue, Ethna, Ill.; H. L. Cantine, Quimby, Iowa; Geo. Kitchen, Jr., Gower, Mo.; Lew Kerr, Newton, Ind.; J. V. Arney, Leon, Iowa; W. N. Foster, Stone Bluff, Ind.; W. J. Miller, Newton, Iowa; M. A. Judy, Beecher, Ill.; McLachlan Bros. & Johnson, Estill, Mo.; J. B. Withers, Missouri City, Mo.; S. Melvin, Greenfield, Ill.; N. G. Daugherty, Douglas, Ill.; Maurer Bros., Boonville, Ind.; S. S. Kirkpatrick, New Richmond, Ind.; J. D. Hatch, Lancaster, Wis.; and E. L. Salisbury, Sheperd, Mich. Catalogue will be mailed upon application to W. C. McGavock, sale manager, Springfield, Ill.

Parke, Davis & Co. take pleasure in announcing through THE KANSAS FARMER that during the forthcoming International Live Stock Exposition, at Chicago, they will again be represented in the Record Building, also in the Exposition Building, just as last year. Visitors will be made welcome at both places. If you are one of the many who has visited Parke, Davis & Co.'s displays during the past seasons,

come again; renew acquaintances and see the exhibit this year. If you have missed these displays before, this year is a good time to get acquainted. You will find there products for the cure and prevention of animal diseases that every live, up-to-date stockman is thinking and talking about. This will include Blacklegold, for the prevention of blackleg in cattle; Anthrax; Kreso and Kreso Dip, everywhere recognized standards of disinfectants and dips; Formaldehyde (P. D. & Co.), for the prevention of smut on grain; Mallein, for testing horses for glanders; Antitonic Serum; Influenza Antitoxin; Cultures of Nitrogen-Gathering Bacteria; Rat Virus, a means of destroying rats and mice by inoculating them with a disease that destroys only rats and mice. No doubt you have often wanted information on these very subjects. This is an opportunity to get some facts and talk the matters over with people who are making a scientific specialty of these problems. Parke, Davis & Co. are known the world over for the production of the highest grade of medicinal products, both for human and veterinary use. In their home laboratories in Detroit they are constantly carrying on experimental work along chemical and biological lines, seeking to improve old remedies and to discover new ones.

Snyder Bros. have for their annual sale an excellent lot of Poland-China sows, boars, and gilts; in fact, a visiting breeder, in looking over the offering last week stated that it would be the best ever sold in Southern Kansas. No. 1 of catalogue will be a great On and On gilt out of a Perfection E. L. dam, second dam Flossie Favorite by Missouri Black Chief. This gilt will be bred to Cute Special, our choice of the \$4.160 liter. No. 2 is a great gilt by Minstrel out of Mischiefmaker Pet, a half-sister to the famous Pet 2d, 3d, and 4th, that produced the famous World's Fair winners, Meddler, Cricket, and Thistle Top. Her second dam is Pet, the dam of above-named sows. In addition, Minstrel, by Corrector 2d, out of Lady Louise, the dam of the sire of the world's champion sow, gets closer to all the World's Fair champions than can be gotten in any other pedigree. This is a great gilt and will sell open. Then there is a great sow in Broadgauge 2d by Simply O. K. out of a Broadgauge gilt by Broadgauge Chief, the International first-prize winner and the Western back-builder. This sow will be sold with a litter of great pigs at side. Then there are daughters of Chief Perfection 2d, Mischiefmaker, and Peerless Perfection, and one full sister to the Royal champion, Peerless Perfection 2d. This gilt sells open. Others are by Bell Ringer, a World's Fair winner, and a host of other well-bred ones. The boar offering will include the show and breeding boar, Meddler Correct by Meddler, dam Delia, litter sister to the \$410 Missouri State Fair champion 1905, second dam Delightful Sunshine, a \$405 sow out of Heart's Delight, the famous Illinois champion sister of Mischiefmaker and Runaway Girl. On's Favorite by On and On out of Missouri Favorite is another that breeders should look well to. In fact, they are selling a number of herd-headers and show prospects, the get of Simply O. K., Perfection I Know, and other great boars. Send for catalogue and come to sale or send your orders to the auctioneer or fieldmen and they will be treated with the utmost fairness.

THE INTERNATIONAL SUNDAY-SCHOOL LESSON.

(Copyright, Davis W. Clark.)
Fourth Quarter, Lesson VII. Matt. xxvi, 57-68. November 18, 1906.

Jesus Before Caiaphas.

Even to those who believe only in the "manliness" of Jesus, His base betrayal, His ignoble desertion, illegal trial, and superlatively cruel death, are enough to touch their hearts to deepest pity. As Renan says, "His legend will call forth tears without ceasing." To those to whom Jesus is Divine, the successive scenes from Gethsemane to Golgotha are cumulative in strong compunctions. Bloody sweat, traitor's kiss, bound hands, hurrying from court to court, false accusations, blow on the mouth, mockery, the cry, "Crucify!" scourging, the Via Dolorosa, the crucifixion—their hearts are like to break under such climatic sorrow.

It is past midnight, but the devotees of an imperial ecclesiasticism are alert. With murderous jealousy they anticipate the delivery into their hands of one for whom they had just paid a goodly price—one who must be immediately put out of the way, or their honors, powers, and emoluments be the forfeit. Rich old Annas paces the marble court of his palace, and listens for the footfalls of the returning band. He will soon have the satisfaction of looking into the face of the iconoclastic Galilean, who has imperiled his vast revenues by twice cleansing the temple of the traffickers whom he had unlawfully licensed to trade there. He will see those hands bound with cords instead of plaiting cords into a whip to drive out the buyers and sellers with. Caiaphas, also Annas's son-in-law, and acting high priest, is on the qui vive to carry into execution his judgment passed three months before—namely, that it were better that one should perish, without reference to his guilt or innocence, than that the nation should be jeopardized.

The chief priests, scribes, and

Pharisees are anticipating with venomous pleasure their retaliation upon one who has publicly denounced them as serpents and vipers; who, with bold hand, has snatched the mask from their unparalleled hypocrisy, and has likened them to whitened sepulchers. So all hell is alert that night to enjoy to the full its short-lived triumph. A sardonic smile passes over the face of Annas as his dull ears catch the tramp of the guard at his very gate. He hurries into his grand salon, and mounts his dais with tottering step. The examination of Jesus here is purely informal. It is just such a courtesy extended by Caiaphas to Annas as, a little later, Pilate extended to Herod. It will have weight, too, with the multitude, that the condemned is first arraigned before one who, according to Moses' law, is still a high priest. And by this device time is gained to "pack the jury" in the only court which Rome recognizes; and there is a scurrying about for suborned witnesses, such as to this day can be had for a price in the lobby of almost any Oriental court.

There sits the Sanhedrin in form of a horseshoe, the high priest at the "toe," and a scribe with inkhorn and parchment at either "cork." In the space between the scribes stands the accused, in full view of the semi-circle of venerables, who sit cross-legged upon their crimson cushions. Guilt is on the bench; innocence is in the dock. Not how to deal justly, but how to condemn is the problem of the court. How to find a verdict that will not too palpably outrage the forms of justice, and one which the Roman governor will ratify, a verdict that will involve the extreme penalty—that is the desideratum.

As a sheep before her shearers is dumb, so the Lamb of God opened not His mouth. Silence is His best defense. The suborned witnesses demolished each other's fabric of lies. Any tribunal not bent upon conviction would have thrown the case out of court with contempt. By His refusal to plead, Jesus denied the validity of the process and the jurisdiction of the court as constituted. The silent, dignified accused is fast throwing the court into confusion. It is at its wits' end, when bold and unscrupulous Calaphas tears his costly robes into shreds from collar to hem, and precipitately finds a verdict, and then proceeds to poll the jury.

Thus Jesus, His hour having come, surrenders Himself into the hands of sinners, and voluntarily lays down a life which no man could have taken from him.

Mills's Mail Order Service.

THE KANSAS FARMER is pleased to announce that the Mills Dry Goods Company, of Topeka, has inaugurated a Kansas Mail Order Service, wherein they deliver all purchases free to any point in Kansas either by mail, express or freight. The Mills Company is one of the foremost and enterprising mercantile houses of the capital city, Topeka, whose business is one of the largest of its class in the State. They have equipped this mail order department to take care of the largest out-of-town business in Kansas, and we urge our readers who are needing anything in the line of dry goods, cloaks, suits, millinery, carpets, curtains, etc., and who wish the very best there is going, and who desire to save money, to feel entirely free to write this firm for any information, describing what they wish so as to get their prices.

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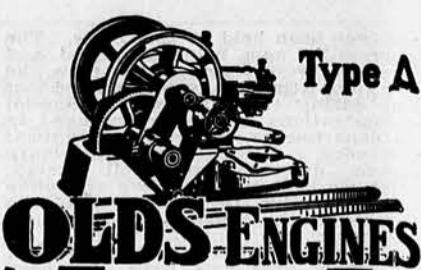
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Agriculture

The Farm Labor Problem.

The following, from an address delivered by J. H. Nolen, chief clerk of the Missouri State Labor Bureau, delivered before the Missouri Immigration Society, October 20, presents some views of an important subject. The points raised may well receive consideration and further discussion from the employers' point of view:

"Probably no other subject is giving the American farmer so much concern to-day as that of farm labor. For years, yes, centuries, farm progress has been retarded because of the scarcity of good help. Many of our wealthy men have disposed of their land and placed their money out on interest or invested it in various other enterprises, all because of the impossibility to secure competent help on the farm. The speaker recognizes the importance of the subject which has been assigned to him, and realizes his inability to discuss it to any satisfactory degree, but it will be our endeavor to make some suggestions, which may prove beneficial to the persons assembled here."

DIVISION OF THE SUBJECT.

"While dealing with this question let us divide the discussion into the following heads: The inferiority of present-day labor on the farm; why satisfactory labor is scarce; the low rate of wages paid to farm labor compared with the wages received by men in other kinds of employment; the long hours demanded of the farm laborers and the short hours worked by the mechanic; dignity of farm labor; suggestions for the solution of the question.

POOR SERVICES.

"The average farm laborer of to-day produces very inferior services, and in most cases he is not competent to perform good work. This statement has reference to the man who has no higher ambition than to work for wages on the farm during the major portion of his life, and does not apply to the young man who has probably just attained to his legal majority and has not sufficient means to begin farming for himself. The average farm hand is paid about \$18 per month; in addition to this amount he receives his board, making a total of about \$25 a month. At that rate the laborer receives in actual cash for his year's work \$216. Out of this sum he must clothe himself, and meet all other necessary expenses.

SAVINGS.

"During the year, by the most strict economy, it is scarcely conceivable, how any man can 'lay up' over \$75 or \$100, and if he is inclined to be a spendthrift he will save nothing, consequently, under the present condition, or rate of farm wages, there is not much inducement for competent and energetic men to become laborers of that class. The young man may consent to work for a few years, in order to secure sufficient means to procure horses and farm machinery to supply his own needs, when he will begin farming for himself, because he realizes he can make more money this way; besides this, he will be his own master. If the young man fails to save up sufficient means during two or three years to begin farming for himself he becomes disgusted, and concludes to abandon the farm entirely and seeks some other employment. Let each of my hearers ask himself this question: Why was I not willing to work for wages on the farm? and this answer will reverberate, 'Because I could better my condition by becoming a farmer for myself.' Then you should not expect other persons to continue as common farm laborers when you were unwilling to remain one yourself."

PERSONAL EXPERIENCE.

"The speaker was reared on a Missouri farm, so speaks from actual experience. The first two years of his life, after becoming his own master, labored and managed his mother's two farms, receiving \$18 per month for his services. Why did he leave the farm? Simply because he had ambitions to better his conditions in life. Had he possessed sufficient funds to have become a farmer for himself he probably would have been found in that business to-day."

WAGES.

"Let us now consider the second division of our subject—the low rate of wages paid farm help compared with the wages received by men in other lines of work. The State Labor Bureau, with which I am connected, compiles each year a report pertaining to man-

ufacture and labor conditions of the State. The report of the year 1905 has not been completed up to this time, but the report of 1904 shows there were in round numbers 145,000 persons employed in the shops and factories of the State, over one-fifth of this number being women and children. These persons, male and female, received on an average of \$450 each in wages. The report shows that the male adults received on an average of \$11 per week, or \$572 per year. This was \$272 more than the average farm hand received, estimating his wages at \$18 per month and allowing \$7 for his board. 'But,' some one will say, 'You are speaking of skilled labor, when you quote from the report of the State Labor Bureau.' This is true, but the same is also true to our reference to farm labor. We contend that the man who performs farmwork well is just as much a skilled laborer as the man who makes the plow share or performs any other work in the shop. It will require fully as many years' experience for the man fresh from the shop to learn to perform skillfully all kinds of farmwork, as it will for the young man who has spent all his life on the farm to learn the trade in a shop. One of the most amusing sights is to observe the awkward manner of a city-bred chap trying to handle a breaking plow, or run a cultivator. He knows nothing about the feeding of stock, nor the time for the planting of grains, so must learn all the features of farmwork, and it will require at least three years of actual work on the farm to familiarize himself with all details. The young man from the farm will learn the trade in the shop equally as soon.

HOURS OF LABOR.

"We are now ready for the third division of our subject—that of hours per day on the farm compared with the hours worked in the shop. The report of the State Labor Bureau, quoted from before, shows 9.33 hours constituted an average day's work in the factories of Missouri during 1904. The average farmhand is out by 5 o'clock in the morning, and excepting one hour for dinner toils until about 7.30 at night. Thus he works at least thirteen hours each day the whole year, and often more. It will be seen the man in a factory works at least four hours less each day and receives almost double the wages of the farmhand. The long hours worked by the farmhand is well illustrated by a story told about a Northeast Missouri farmer, who, once upon a time, became involved in a law suit with one of his neighbors. During the course of the trial, a man who had worked for the good farmer for many years, was placed on the witness stand. The attorney for one side had occasion to interrogate the witness regarding the kind of house occupied by the farmer. To the question the witness replied that he could not tell. He was asked if he did not board with the farmer while working for him, to which the laborer answered in the affirmative. The court, jury, lawyers, and all present were astonished to hear such a statement. Finally the witness was called upon to explain why he could tell nothing regarding the character of the home; he then informed the court that during the three years he worked for the farmer he arose, did the chores around the house, ate his breakfast and left the house before daylight, always returning after nightfall. Probably many other farm laborers might relate similar experiences.

INFERIOR CLASS OF MEN.

"The inferior class of men engaged as farm laborers and the treatment accorded them tend to lower the dignity of farm labor and cause many to shun this class of work. The farmer is the noblest citizen of this country, and the man who assists him in tilling the soil is equally as noble, and the latter should be treated with as much consideration as the farmer. When this is done the farmer will have made one step toward the solution of this mighty perplexing problem.

MARRIED MEN.

"It has been suggested that the employment of married men or men of families on the farm would prove a partial solution to the farm labor question. This might prove true in many cases, but how many farmers are supplied with extra houses to accommodate men of families? Not a very large per cent, we dare assert. Furthermore, it will be found the men of families, who are willing to work on the farm all their lives for wages, are generally not proficient. Were they progressive and ambitious they would be farming for themselves. The man with a family might prove more contented than the single man, because he real-

izes his responsibility of earning a living for his family, but we doubt if there will be any difference between the efficiency of work performed by the unmarried man and the man with a family.

SOLUTION SUGGESTED.

"We are now ready for the solution, which we have to suggest, to this problem. You who have followed the foregoing remarks, no doubt, can forecast the suggestion which is to be offered. It is this, in order to improve the quality and quantity of farm labor higher wages must be paid.

"Some monetary inducements must be held out to the young man in order to hold him on the farm. If a man's work in the shop, factory, or store is worth \$10 per week, while engaged only ten hours per day, surely he should receive the same price when laboring on the farm for at least thirteen hours per day. Some, if not all farmers, will say they can not afford to pay higher wages under existing circumstances. We contend you can afford to pay higher wages for good labor if you can afford to pay medium wages for inferior labor. The manufacturers have learned it is economy to pay high wages to skilled, honest workmen rather than pay medium wages to inferior workmen. This is why the best laborers are leaving the farms to take places in the shops.

THE ALTERNATIVE.

"If the farmers are unable and unwilling to pay higher wages for good farm help, there is but one other remedy to offer—reduce the average size of farms in order that assistance outside of the farmer's own family will be unnecessary. While not exactly a part of this subject, the question of small farms is of vital interest to Missouri now, and if the scarcity of farm labor might force our agriculturists to conduct their farms on reduced scales, beneficial results may be derived from the present scarcity of efficient help. Beyond doubt a majority of Missouri farmers have endeavored to conduct their business on too large a scale. One of the greatest needs of to-day in Missouri is more small farms and more farmers. Greater profits are derived from the small farms, in proportion to the amount invested and the amount of money and labor expended, than is derived from the large farms. Smaller farms will enhance the value of land, make more happy homes, increase the amount produced in the State, increase the wealth and undoubtedly assist in the solution of our present labor troubles."

How the Boys Raised Their Corn.

Last week's KANSAS FARMER gave an account of the boys' corn-growing contest in Shawnee County. The boys were asked to tell for publication how they did it. In response to this invitation the following have been received:

Arthur Monroe, North Topeka, winner of first prize, says:

"I plowed the ground about seven inches deep on April 25, and harrowed it three times. The ground was marked out with a one-horse, single-shovel plow. The rows were about three feet ten inches apart. I drilled the corn in with a one-horse drill, dropping the kernels about sixteen inches apart. The corn, Boone County White, was planted on May 2. It was first cultivated on May 19 to a depth of about four inches. I hoed the corn May 25. The second cultivation was on June 1, the third cultivation June 18, and the fourth cultivation July 31. A two-horse cultivator was used. This corn was raised on upland, and 617 pounds were raised from one quart of seed."

Karl Nystrom, Topeka, Kans., third prize winner, says:

"I plowed my ground, harrowed it fine, and planted my quart of corn on May 10. It was cultivated the first time on May 25. I cultivated it five times and hoed it once."

Fred Van Nice, Richland, Kans., who won fourth prize, says:

"This corn, which was Boone County White, was raised on Wakarusa bottom-land. The ground was plowed in January, 1906, and disked and listed on May 4, in rows 40 inches apart. The corn was planted May 5 in the lister rows, 30 inches apart, and covered with a hoe from 1 to 2 inches deep. I harrowed it May 15 and 22, hoed it May 28, plowed it with shovel cultivator June 20 and 30, and hoed it July 31. August 1 the number of stalks was 1,607, the number of barren stalks 136, and the number of ears 1,724. Samples were gathered October 20. I gathered 15 bushels and 16 pounds of corn from the quart I planted."

John Ready, Topeka, Kans., winner of fifth prize, writes:

"I planted my corn May 5, on one-

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Closely woven. Can not sag. Every wire and every twist is a brace to all other wires and twists full height of the fence. Horse-high, Bull-strong, Pig-tight. Every rod guaranteed. 30 DAYS FREE TRIAL and sold direct to farmer, freight prepaid, at lowest factory price. Our Catalogue tells how Wire is made—how it is galvanized—why some is good and some is bad. Its brimful of fence facts. You should have this information. Write for it today. It's Free. KITSELMAN BROS., Box 61 MUNCIE, INDIANA.

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Advance Fence has a continuous stay wire—woven right into the rest of the fence, up and down, for many rods without an end. It's twice as strong as cut-stay fences.

Why buy fence "unsight-unseen," or pay retail prices, when you can buy Advance Fence at factory prices and test it 30 days on your own farm at our risk? You can return it if you don't like it. We pay all freight. Booklet about Fences with factory prices mailed free on request.

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STAND FIRM

When you buy an OILED SUIT OR SLICKER demand TOWER'S FISH BRAND.

It's the easiest and only way to get the best.

Sold everywhere

A. J. TOWER CO. BOSTON, MASS.
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fourth of an acre of ground on which I had put eight loads of manure. The ground was plowed and then harrowed twice. The corn was planted with a one-horse planter, eighteen inches apart. The ground was plowed four times after planting. I gathered the corn October 27, and got fifteen bushels from one-quarter of an acre."

Zoe Burnett, Topeka, Kans., winner of sixth prize, writes:

"My corn was raised on second-bottom ground which I plowed May 4. The ground had been cropped from twenty to thirty years. After plowing, the ground was well harrowed and marked out both ways. Corn was planted May 7, being dropped by hand, and covered with a hoe. The ground was harrowed before the corn came up and the corn was first cultivated with two horses, and then finished up with one horse. The sample corn was gathered October 31. Crows and cut-worms destroyed about one-third, so only two-thirds of it came to maturity. There were about 1,100 ears in the whole field, and about 100 barren stalks."

Finney Markham, Elmont, writes:

"The land where my corn was planted was old woodland in a bend of a creek where it was so low that there was danger from flood. The ground was cleared of trash April 10, and on April 24 and 25 the ground was plowed and harrowed. Immediately after the plowing, some stumps were taken out. Then on May 5 the corn was planted in check-rows, the rows being three feet six inches apart each way. Two kernels were placed in a hill. A small portion of the hills were made by thoroughly digging up the ground, leaving a shallow hole in which the kernels were placed. This part did not have so good a stand as the other part, which was planted by stamping a hole from one-half to two or three inches in depth with the heel, in which the corn was placed, after which it was covered with a hoe and stepped upon to pack the soil somewhat about the kernels.

"All weeds were killed previous to planting by a good harrowing. A little after the middle of May, when the corn was from four to six inches high, the corn was cultivated both ways with a five-toothed cultivator. Then on June 7 it was cultivated across the field to the north and south, and on the 16th of the same month was cultivated the other way. Both times it was cultivated with a five-toothed cultivator. On June 29 the suckers and large weeds were all cut out. In the latter part of August a small part was hoed.

"The corn was harvested in the week ending October 27. Seven or eight hundred hills were planted. The corn was snapped into a wagon. Thus it was not shelled so much as if it had been husked into a wagon. After it was husked the best ten ears were selected."

Horticulture

Preserving and Planting Forest-Tree Seeds.

BUREAU OF FORESTRY, U. S. DEPARTMENT OF AGRICULTURE.

Many kinds of forest-tree seeds are served with considerable difficulty. Some are adapted by nature to germinate as soon as ripe, and if not planted at this time, they retain their vitality but a few weeks; others will not germinate until they have passed through a certain period of rest, and that resting condition must be passed under certain definite conditions. It thus happens that the planter must have a knowledge of the peculiarities of each individual species, in order to attain the most complete success. There are, however, some general rules which may be given for the guidance of the prospective planter.

The species of trees whose seeds ripen in the late spring or early summer and possess but a transient vitality are soft maples, white elm, cottonwood, willows, poplars, and river birch. The seeds of these trees should be planted as soon as ripe, and should not be exposed to drying out.

Seeds of birches (except river birch), mulberry, tulip-tree, box-elder, sugar maple, ashes, and catalpa may be preserved in a cool, dry place. Before planting it is best to soak such seeds in warm water for half a day. They are kept with greater success by storing between alternating layers of slightly moist sand. The sand and seeds should be kept in a cool, dry place. Seeds of hackberry, black cherry, basswood, choke cherry, wild plum, buffalo-berry, and Russian white olive

may be stratified, or stored in moist sand out of doors where they will get the benefit of rain and frost. Seeds with fleshy coverings, such as plum, choke cherry, buffalo-berry, black cherry, and red cedar, should be freed from the pulp of their fruits before being stratified. Seeds of red cedar should be treated with wood ashes or lye in order to decompose the mucilaginous pulp. They should then be planted one inch deep in the seed-bed and the bed mulched heavily with leaves or straw for a year. After that length of time the mulch should be nearly all removed to facilitate germination, which will then begin to take place. The seedlings should have partial shade the first season.

The nut-seeds, such as acorns, walnuts, hickory-nuts, beach-nuts, chestnuts, and hazelnuts, should be handled with great care to prevent drying out. If the planter has facilities for preventing the ravages of rodents and vermin, the best way to handle these seeds will be to plant them in the fall as soon as ripe. The acorns of white oak germinate very rapidly and are difficult to preserve by any system of storage. If the planter is not prepared to plant these nuts immediately, he should stratify them between alternating layers of moist sand and store them where they will be exposed to freezing. Oak, hickory, and black walnut seeds should be planted immediately in the forest site, as those trees are not adapted to transplanting.

Seeds of black locust, honey locust, redbud, Kentucky coffee-tree, and yellow-wood should be collected when ripe, freed from their coverings, and stored dry. Before planting they should be treated as follows:

Heat to the boiling point a half gallon of water for each pound of seed. Pour the water into a wash-tub or other vessel of convenient size; then throw the seeds into the scalding water and stir them vigorously. Continue the stirring at intervals of five minutes for half an hour. Cover the vessel with wet burlap wrung out of hot water and leave the seeds standing for two or three days. At the end of this time all the seeds that have swelled and are swimming should be planted without being allowed to dry. The water should be poured off the sunken seeds and these should be given another scalding. The seeds which swell and rise will germinate in a few days. If the bony seeds of these species are not scalded, they will lie in the ground for years before germinating.

Thinning Fruit.

It is the large, fine fruit that brings the profit; pays the mortgage, labor, fertilizer, and cost of everything. It leaves the dollar where you are going to have the fun out of it. To have high-grade fruit we must thin. Have a thousand peaches and leave them all on the trees and you may have five half-bushel baskets with 200 in each. You may throw 500 away and still have five baskets of peaches. One may have not over forty-five or fifty peaches in it and yet have it worth \$1.50 to \$2. The other baskets with 200 in them will be worth 50 cents. Fine peaches will bring from ten to sixteen times as much as little peaches, besides not weakening the trees.

You have a law that will not allow you to sell milk which is more than so much water. We fruit-growers have the advantage over every other producer; the more we water our stock the more they will pay us for it, and the more solids the less they pay us for it. Peaches that are 15 per cent solids and 85 per cent water are worth 50 cents, but those only 10 per cent solids and 90 per cent water are worth \$3 or \$4. I say dose them with water; soak them, and this is easiest done by thinning and so getting large fruit full of water.

J. H. HALE.
Connecticut and Georgia.

Hints to Tree-Buyers.

A bulletin issued by the Wisconsin State Horticultural Society contains the following practical hints and suggestions to prospective buyers of fruit-trees:

In procuring fruit-trees, plants, flowering shrubs, etc., the farmer, as well as the city dweller, is dependent on the nurseryman. On the farm the grain-seeds and often the grass-seeds used are home grown, but it is not practicable for the farmer to produce his nursery stock. In the case of fruit-trees a knowledge of grafting is necessary as well as the after care and cultivation of the trees for two or three years or until large enough to set in permanent places. The professional fruit-grower may possibly do this with profit, but it is not advisable to continue farming with nursery work, when

but small quantities of stock are required.

"Buy in the winter for early spring delivery. Trees bought for fall delivery must either be planted at once or 'heeled in.' While root growth may begin to some extent in fall-planted trees, the drying and freezing which the trees must withstand for probably six months is apt to result in injury. Trees delivered late in the fall are usually 'heeled in' by the buyer, the trees partially or wholly buried until spring.

"Nurserymen, as a rule, are provided with storage sheds or cellars where the trees and plants, dug late in the fall, are stored with roots kept moist and the temperature of the storage-room held near the freezing point. Here the stock is held dormant and well protected, and if forwarded to the buyer early in the spring and planted as soon as received, better results will be obtained than by fall planting or 'heeling in.'

"Buy of a reliable firm, one having a permanent place of business and a reputation to maintain. If buyers of nursery stock would proceed as in other business transactions, there would be fewer complaints of fraud. A farmer, for instance, would be considered lacking in ordinary business sagacity who would buy live stock of an agent or firm wholly unknown to him, and yet that is what many are doing in buying nursery stock. Representatives of reliable firms will have no difficulty in proving their reliability."

A Seedless Tomato.

While the Government agricultural experiment stations do not wish to duplicate each other's work, the Department of Agriculture has recently received reports from the experiment stations of New Jersey and Wisconsin, showing that both of these Government institutions have been making experiments along identical lines—the production of tomatoes without seeds. The New Jersey types were obtained more as a result of crossing rather than as a willful attempt to produce a freak, the fruit being of good shape and color, but of inferior size.

Prof. E. P. Sandsten, of the University of Wisconsin, however, reports a most interesting experiment which he carried on with tomato-plants.

Recognizing the effect of high-feeding, Professor Sandsten undertook his experiment last winter to show the effect upon tomatoes in the Experiment Station forcing-houses. Young seedlings grown in ordinary garden loam were transplanted to three-inch pots in soil the same as that in the seed-box; three weeks later the plants were transferred to the greenhouse bed, where the soil was made up in the same proportion as the pot soil. Commercial fertilizers were made up and applied at the following rate per acre: Nitrate of soda, eight hundred pounds; sulfate of potash, six hundred pounds; desiccated bone, one thousand pounds. Two applications were made; the first as soon as the young plants had taken hold of the soil, and the second one two weeks later.

"It will be noticed," said Professor Sandsten, in his report, "that the amount of fertilizer is excessive and impracticable for all commercial purposes; in fact, I was fearful that this large amount would permanently in-

\$7.00 Daily Av. selling Only Pump Equalizers
Make all pumps work Easy. Windmills run in slightest wind. Fits all
Pumps. Merit sells them. Fully War-
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wherever planted; are planted
everywhere trees are grown. Free
Catalog of superb fruits—Black Ben,
King David, Delicious, etc.—Stark Bros., Louisiana, Mo.

Fruit Trees and Plants True to the name.
Highest quality, guaranteed to live. Materially less than agent's price. Illustrated Catalogue Free. Box 25

CHATTANOOGA NURSERIES Chattanooga, Tenn.

SEEDS As good as grown. 6 Pkts. Giant Cyclamen and annual Vetch, 6 Pkts. California Poppy, 6 Pkts. Primroses and Grecian Violets; also 10 varieties Annuals. 6 Pkts. Vegetables, 10c. Plants, 6 Rose, 5c. 6 Geraniums, 25c; 6 Begonias, 25c; 6 Fuchsias, 25c; 6 Chrysanthemums, 25c; 6 Pelargoniums, 25c. Catalog and Pkt. Royal Giant Pansy free.

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Black Hawk GRIST MILL
A hand mill for country, vil-
lage and city housekeepers.
Fresh corn meal, graham, rye
flour, etc. Fast, easy grinder made to last.
Weight 17 lbs. \$3.00. EXPRESS
PAID.
Soon find a dozen uses
for it. Grinds corn, wheat, rice, spices,
coffee, etc. fine or coarse. Just the
thing for cracking grain for poultry.
Black Hawk book FREE.
A. H. PATCH,
Mfr. of Hand Mills and Corn Shellers
exclusively. Agents Wanted.
Clarksville, Tennessee.

Make More Money on Fruit Crops

Everyone who grows fruit, whether a large commercial grower, or one who has only a few fruit trees, a berry patch or a garden, should be interested in knowing how to get the most profit from his crops.

THE FRUIT GROWER
ST. JOSEPH, MISSOURI

is the only magazine in America which is devoted exclusively to the interests of those who grow fruit. It is handsomely illustrated, and contains from 36 to 76 pages each month. It tells all about fruit of all kinds—and nothing but fruit—how to market, how to pack, cultivate, spray, prune, how to MAKE MORE MONEY from your crops. Sample copy will be sent free. Regular price, one dollar a year, and each subscriber is entitled to a choice of any one of our series of ten "Brother Jonathan" Fruit Books—the best in existence.

Three Months Free

We are so confident the Fruit-Grower will please you that we will send it to you three months absolutely free if you will mention paper in which you saw this advertisement. If, after three months, you like the paper, we will make you a special offer for twelve months more. If you don't like it, notify us and we will take your name off the list. The three months will cost you nothing. We offer Cash Prizes for new subscribers—write for particulars. Write your name and address in blanks below and mail to **Fruit-Grower Co., Box A, St. Joseph, Mo.**

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I accept your FREE three month's trial offer. At end of three months I will either pay for a year's subscription or notify you to stop paper. In either event there is to be NO charge for the three month's trial.

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SERVICE TABLE

Every farmer and breeder of stock should have this. Tells just when animals are due at a glance. Save the young by knowing when to look for them. Absolutely correct. Only 10c. Send today. E. W. SHOLTY, 508 W. Allen St., Springfield, Illinois

jure or kill the plants. In a short time the effect of this excessive application of fertilizer was apparent in the young plants, no two of which were alike. One plant in particular, which showed great modifications in the floral parts, was labeled and carefully watched. As the fruit formed and grew, it was noticed that the pistil and fleshy part of the ovary developed abnormally and there appeared to be no evidence of seed-formation. During the process of growth and ripening of the fruit this fact was further emphasized, and when the first fruit was cut it was found to be seedless.

"Another plant showed a marked tendency to dwarf; the fruits from this plant were small, not larger than a good-sized walnut. The fruits were almost solid and without seed, though in some instances the seed cavities were noticeable. Between these two special types all the plants in the forcing-house showed more or less modifications from the original type, and in almost all cases there was a tendency of the plants to produce fruits containing a much smaller number of seeds than is generally found in the ordinary fruit."

Grape-Cuttings.

Grape-cuttings for propagation are made from the largest and best developed wood of the past year's growth. They should be cut into pieces about eight inches long and should have at least two or three joints. If their length varies two or three inches that will make no difference, but the lower cut should be made close to a joint and the upper one about an inch above one. The roots come out at the joints or nodes much more easily than between them, and there is no need of any wood on the cuttings below where the roots come out. As the top bud is the one that is above ground and will make the growth, it is important that there should be no danger of injuring it, and that is why a little wood should be left above it. The wood should be cut early and stored in a moist place, so the cuttings can be made at any time during the winter when convenient. They should be made into bundles of about 100 each and packed in damp sand or moss until spring. It is a good plan to bury them in a sheltered spot out of doors, and with their butts upward, so the top buds will not start in early spring. As soon as the soil can be well worked in the spring, the cuttings should be set in rows about two feet apart and four or five inches apart in the rows, with the top buds about an inch above the surface. Good soil and good tillage are necessary to produce good plants.—Farmers' Tribune.

Miscellany

The National Act Governing Transportation Rates.

Upon his knowledge of current events and the facts of the present situation depends the farmer's ability to take care of his interests under the conditions that exist. One of the most important features of the situation as affecting the farmer's prosperity is the regulation of transportation charges. This subject occupied a large place in the labors of the last Congress. The results of these labors have been placed before almost all interested except farmers. THE KANSAS FARMER herewith presents the law and hopes that every farmer in its family will take the trouble to read it carefully:

TITLE.

An act to amend an act entitled, "An Act to Regulate Commerce," approved February 4, 1887, and all acts amendatory thereof, and to enlarge the powers of the Interstate Commerce Commission.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section one of an entitled "An Act to Regulate Commerce," approved February 4, 1887, be amended so as to read as follows:

SCOPE OF THE ACT.

"Sec. 1. That the provisions of this act shall apply to any corporation or any person or persons engaged in the transportation of oil or other commodity, except water and except natural or artificial gas by means of pipe-lines or partly by pipe-lines and partly by railroad, or partly by pipe-lines and partly by water, who shall be considered and held to be common carriers within the meaning and purpose of this act, and to any common carrier or carriers engaged in the transportation

of passengers or property wholly by railroad (or partly by railroad and partly by water when both are used under a common control, management, or arrangement for a continuous carriage or shipment), from one State or Territory of the United States, or the District of Columbia, to any other State or Territory of the United States, or the District of Columbia, or from one place in a Territory to another place in the same Territory, or from any place in the United States to an adjacent foreign country, or from any place in the United States through a foreign country to any other place in the United States, and also to the transportation in like manner of property shipped from any place in the United States to a foreign country and carried from such place to a port of transshipment, or shipped from a foreign country to any place in the United States and carried to such place from a port of entry either in the United States or an adjacent foreign country. Provided, however, that the provisions of this act shall not apply to the transportation of passengers or property, or to the receiving, delivering, storage, or handling of property wholly within one State and not shipped to or from a foreign country from or to any State or Territory as aforesaid.

COMMON CARRIERS.

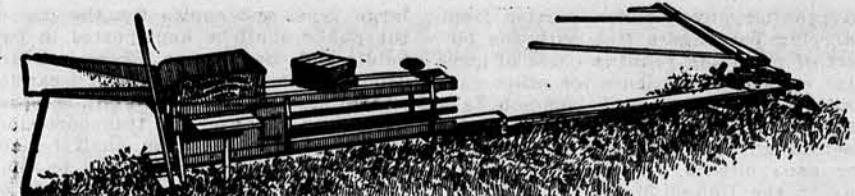
"The term, 'common carrier,' as used in this act, shall include express companies and sleeping-car companies. The term 'railroad,' as used in this act, shall include all bridges and ferries used or operated in connection with any railroad, and also all the road in use by any corporation operating a railroad, whether owned or operated under a contract, agreement, or lease, and shall also include all switches, spurs, tracks, and terminal facilities of every kind used or necessary in the transportation of the persons or property designated herein, and also all freight depots, yards, and grounds used or necessary in the transportation or delivery of any of said property; and the term 'transportation' shall include cars and other vehicles and all instrumentalities and facilities of shipment or carriage, irrespective of ownership or of any contract, express or implied, for the use thereof, and all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage, and handling of property transported; and it shall be the duty of every carrier subject to the provisions of this act to provide and furnish such transportation upon reasonable request therefor, and to establish through routes and just and reasonable rates applicable thereto.

CHARGES.

"All charges made for any service rendered or to be rendered in the transportation of passengers or property as aforesaid, or in connection therewith, shall be just and reasonable; and every unjust and unreasonable charge for such service or any part thereof is prohibited and declared to be unlawful.

FREE PASSES.

"No common carrier subject to the provisions of this act shall, after January 1, 1907, directly or indirectly, issue or give any interstate free ticket, free pass, or free transportation for passengers, except to its employees and their families, its officers, agents, surgeons, physicians, and attorneys at law; to ministers of religion, traveling secretaries of railroad Young Men's Christian Associations, inmates of hospitals and charitable and eleemosynary institutions, and persons exclusively engaged in charitable and eleemosynary work; to indigent, destitute, and homeless persons, and to such persons when transported by charitable societies or hospitals, and the necessary agents employed in such transportation; to inmates of the National homes or State homes for disabled volunteer soldiers, and of soldiers' and sailors' homes, including those about to enter and those returning home after discharge, and boards of managers of such homes; to necessary caretakers of live stock, poultry, and fruit; to employees on sleeping-cars, express-cars, and to linemen of telegraph and telephone companies; to railway mail service employees, post-office inspectors, customs inspectors, and immigration inspectors; to newsboys on trains, baggage agents, witnesses attending any legal investigation in which the common carrier is interested, persons injured in wrecks, and physicians and nurses attending such persons: Provided, that this provision shall not be construed to prohibit the interchange of passes for the officers, agents, and employees of common carriers, and their families; nor



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THAT'S because you make neat, compact bales and because they are shaped right.

The press shown above is our smaller size, the one horse press, size of bale chamber, 14 x 18 inches. Even with it you can bale eight to ten tons of hay a day.

You see it is full circle. No backing up to jade the horse or to require a driver.

And the pull is remarkably light for the pressure it puts on the hay. This is because through the arrangement of compound levers when the pressure is the greatest there is no increase of draft on the horse.

It will bale timothy, clover, alfalfa, prairie hay, straw, husks, shredded corn stalks, pea vines, sorghum, moss or excelsior.

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The step-over is only four inches high.

The press is constructed almost entirely of steel and iron. Its bale chamber is made with strong steel corners. It is able to withstand the great pressure put on the hay to make the neat, compact bales for which it is noted.

If you want a press for your own individual hay baling, this will suit you exactly, unless you are a very large hay raiser.

If you want to do neighborhood or contract work, you should investigate the I. H. C. 2-horse press—size of bale chamber, 14x18, 16x18 and 17x22 inches.

You'll find it speedy and right working in all kinds of hay or anything else you want to bale.

The BEST CORN SHELLER

to buy is the one that will shell the most corn in a given time with the least power, and the smallest outlay for repairs. That sheller is

THE RACINE

The feeder is from 12 to 16 inches longer than others. Elevator head is wide and can not clog. Rear end of sheller is 5 3-4 inches wider than others—these features insure

Great Capacity

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The Only Sheller Having a Gravity Force Feed.

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From Factory to Farm

14 in. Steel Beam Plow, Double Shin
best that money can buy, only

\$9.00

12-in. 28.75
15-in. 49.90
18-in. 612.00
Sulky Plow \$25
Gang Plow \$50
1000 other articles.
Free Special Catalogue
Buggies, Harnesses,
Steel Ranges, Best Walking Cultivator, 4 shovel, \$12.00. Best Walking Cultivator, 4 shovel and Eagle Claws, \$15.25. Improved Riding Cultivator, 4 shovel, \$19.00. Improved Riding Disc Cultivator, 6 Disc, \$28.00. Corn Planter, complete, 80 rods wire, \$27.75. Address

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(Only plow factory in the United States selling direct to farmers at wholesale prices.)

NO AGENTS NO MIDDLEMEN

See what it means.

64-Tooth Lever Harrow \$8.15

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14-in. Imp. Lister \$17.75

14-in. Sulky \$131.65

8-ft. Rake \$16.00

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Best Sowing Machine

Gt. equal to any \$50

Machine \$17.50

Steel Range with Reg. \$19.70

Fine Top Buggy \$33.50

12-16 Disc Harrow \$17.00

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Machine \$17.50

Steel Range with Reg. \$19.70

Fine Top Buggy \$33.50

to prohibit any common carrier from carrying passengers free with the object of providing relief in cases of general epidemic, pestilence, or other calamitous visitation. Any common carrier violating this provision shall be deemed guilty of a misdemeanor, and for each offense, on conviction, shall pay to the United States a penalty of not less than one hundred dollars nor more than two thousand dollars, and any person, other than the persons excepted in this provision, who uses any such interstate free ticket, free pass, or free transportation, shall be subject to a like penalty. Jurisdiction of offenses under this provision shall be the same as that provided for offenses in an act entitled 'An Act to Further Regulate Commerce with Foreign Nations and Among the States,' approved February 19, 1903, and any amendment thereof.

MUST NOT OWN PRODUCTS CARRIED.

"From and after May 1, 1908, it shall be unlawful for any railroad company to transport from any State, Territory, or the District of Columbia to any other State, Territory, or the District of Columbia, or to any foreign country, any article or commodity, other than timber and the manufactured products thereof, manufactured, mined, or produced by it, or under its authority, or which it may own in whole or in part, or in which it may have any interest, direct or indirect, except such articles or commodities as may be necessary and intended for its use in the conduct of its business as a common carrier.

SWITCHES.

"Any common carrier subject to the provisions of this act, upon application of any lateral, branch line of railroad, or of any shipper tendering interstate traffic for transportation, shall construct, maintain, and operate upon reasonable terms a switch connection with any such lateral, branch line of railroad, or private side-track which may be constructed to connect with its railroad, where such connection is reasonably practicable and can be put in with safety and will furnish sufficient business to justify the construction and maintenance of the same; and shall furnish cars for the movement of such traffic to the best of its ability without discrimination in favor of or against any such shipper. If any common carrier shall fail to install and operate any such switch or connection as aforesaid, on application therefor in writing by any shipper, such shipper may make complaint to the Commission, as provided in section 13 of this act, and the Commission shall hear and investigate the same and shall determine as to the safety and practicability thereof, and justification and reasonable compensation therefor, and the Commission may make an order, as provided in section 15 of this act, directing the common carrier to comply with the provisions of this section in accordance with such order, and such order shall be enforced as hereinafter provided for the enforcement of all other orders by the Commission, other than orders for the payment of money."

Sec. 2. That section 6 of said act, as amended March 2, 1889, be amended so as to read as follows:

RATES OPEN TO THE PUBLIC.

"Sec. 6. That every common carrier subject to the provisions of this act shall file with the Commission created by this act and print and keep open to public inspection schedules showing all the rates, fares, and charges for transportation between different points on its own route and between points on its own route and points on the route of any other carrier by railroad, by pipe-line, or by water, when a through route and joint rate have been established. If no joint rate over the through route has been established, the several carriers in such through route shall file, print, and keep open to public inspection as aforesaid, the separately established rates, fares, and charges applied to the through transportation. The schedule printed as aforesaid by any such common carrier shall plainly state the places between which property and passengers will be carried, and shall contain the classification of freight in force, and shall also state separately all terminal charges, storage charges, icing charges, and all other charges which the Commission may require, all privileges or facilities granted or allowed, and any rules or regulations which in any wise change, affect, or determine any part or the aggregate of such aforesaid rates, fares, and charges, or the value of the service rendered to the passenger, shipper, or consignee. Such schedules shall be plainly printed in

large type, and copies for the use of the public shall be kept posted in two public and conspicuous places in every depot, station, or office of such carrier where passengers or freight, respectively, are received for transportation, in such form that they shall be accessible to the public and can be conveniently inspected. The provisions of this section shall apply to all traffic, transportation, and facilities defined in this act.

"Any common carrier, subject to the provisions of this act, receiving freight in the United States to be carried through a foreign country to any place in the United States shall also in like manner print and keep open to public inspection, at every depot or office where such freight is received for shipment, schedules showing the through rates established and charged by such common carrier to all points in the United States beyond the foreign country to which it accepts freight for shipment; and any freight shipped from the United States through a foreign country into the United States the through rate on which shall not have been made public as required by this act, shall, before it is admitted into the United States from said foreign country, be subject to customs duties as if said freight were of foreign production.

CHANGES IN RATES.

"No changes shall be made in the rates, fares, and charges or joint rates, fares, and charges which have been filed and published by any common carrier in compliance with the requirements of this section, except after thirty days' notice to the Commission and to the public published as aforesaid, which shall plainly state the changes proposed to be made in the schedule then in force and the time when the changed rates, fares, or charges will go into effect; and the proposed changes shall be shown by printing new schedules, or shall be plainly indicated upon the schedules in force at the time and kept open to public inspection: Provided, that the Commission may, in its discretion and for good cause shown, allow changes upon less than the notice herein specified, or modify the requirements of this section in respect to publishing, posting, and filing of tariffs, either in particular instances or by a general order applicable to special or peculiar circumstances or conditions.

MUST FILE WITH COMMISSION.

"The names of the several carriers which are parties to any joint tariff shall be specified therein, and each of the parties thereto, other than the one filing the same, shall file with the Commission such evidence of concurrence therein or acceptance thereof as may be required or approved by the Commission, and where such evidence of concurrence or acceptance is filed it shall not be necessary for the carriers filing the same to also file copies of the tariffs in which they are named as parties.

"Every common carrier subject to this act shall also file with said Commission copies of all contracts, agreements, or arrangements with other common carriers in relation to any traffic affected by the provisions of this act to which it may be a party.

"The Commission may determine and prescribe the form in which the schedules required by this section to be kept open to public inspection shall be prepared and arranged, and may change the form from time to time as shall be found expedient.

"No carrier, unless otherwise provided by this act, shall engage or participate in the transportation of passengers or property, as defined in this act, unless the rates, fares, and charges upon which the same are transported by said carrier have been filed and published in accordance with the provisions of this act; nor shall any carrier charge or demand or collect or receive a greater or less or different compensation for such transportation of passengers or property, or for any service in connection therewith, between the points named in such tariffs than the rates, fares, and charges which are specified in the tariff filed and in effect at the time; nor shall any carrier refund or remit in any manner or by any device any portion of the rates, fares, and charges so specified, nor extend to any shipper or person any privileges or facilities in the transportation of passengers or property, except such as are specified in such tariffs; Provided, that whenever the word carrier occurs in this act it shall be held to mean common carrier.

IN TIME OF WAR.

"That in time of war or threatened war preference and precedence shall, upon the demand of the President of

the United States, be given, over all other traffic, to the transportation of troops and material of war, and carriers shall adopt every means within their control to facilitate and expedite the military traffic."

PUNISHMENTS.

That section 1 of the act entitled "An Act to Further Regulate Commerce with Foreign Nations and Among the States," approved February 19, 1903, be amended to read as follows:

"Sec. 1. That anything done or omitted to be done by a corporation common carrier, subject to the act to regulate commerce and the acts amendatory thereof, which, if done or omitted to be done by any director or officer thereof, or any receiver, trustee, lessee, agent, or person acting for, or employed by such corporation, would constitute a misdemeanor under said acts or under this act, shall also be held to be a misdemeanor committed by such corporation, and upon conviction thereof it shall be subject to like penalties as are prescribed in said acts or by this act with reference to such persons, except as such penalties are herein charged. The willful failure upon the part of any carrier subject to said acts to file and publish the tariffs or rates and charges as required by said acts, or strictly to observe such tariffs until changed according to law, shall be a misdemeanor, and upon conviction thereof the corporation offending shall be subject to a fine of not less than one thousand dollars nor more than twenty thousand for each offense; and it shall be unlawful for any person or persons or corporation to offer, grant, or give, or to solicit, accept, or receive any rebate, concession, or discrimination in reference to the transportation of any property in interstate or foreign commerce by any common carrier subject to said act to regulate commerce and the acts amendatory thereof, whereby any such property shall by any device whatever be transported at a less rate than that named in the tariffs published and filed by such carrier, as is required by said act to regulate commerce and the acts amendatory thereof, or whereby any other advantage is given or discrimination is practised. Every person or corporation, whether carrier or shipper, who shall knowingly offer, grant, or give, or solicit, accept, or receive any such rebates, concession, or discrimination shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than one thousand dollars nor more than twenty thousand dollars: Provided, That any person or any officer or director of any corporation subject to the provisions of this act or the act to regulate commerce and the acts amendatory thereof, or any receiver, trustee, lessee, agent, or person acting for or employed by such corporation, who shall be convicted as aforesaid, shall, in addition to the fine herein provided for, be liable to imprisonment in the penitentiary for a term of not exceeding two years, or both such fine and imprisonment, in the discretion of the court. Every violation of this section shall be prosecuted in any court in the United States having jurisdiction of crimes within the district in which such violation was committed, or through which the transportation may have been conducted; and whenever the offense is begun in one jurisdiction and completed in another it may be dealt with, inquired of, tried, determined, and punished in either jurisdiction in the same manner as if the offense had been actually and wholly committed therein.

"In construing and enforcing the provisions of this section, the act, omission, or failure of any officer, agent, or other person acting for or employed by a common carrier, or shipper, acting within the scope of his employment, shall in every case be also deemed to be the act, omission, or failure of such carrier or shipper as well as that of the person. Whenever any carrier files with the Interstate Commerce Commission or publishes a particular rate under the provisions of the act to regulate commerce or acts amendatory thereof, or participates in any rates so filed or published, that rates as against such carrier, its officers, or agents, in any prosecution begun under this act shall be conclusively deemed to be the legal rate, and any departure from such rate, or any offer to depart therefrom, shall be deemed an offense under this section of this act.

AGAINST REBATING.

"Any person, corporation, or company who shall deliver property for interstate transportation to any common carrier, subject to the provisions of this act, or for whom as consignor or

Dyspepsia of Women

Caused by Female Disorders and Cured by Lydia E. Pinkham's Vegetable Compound

A great many women suffer with a form of indigestion or dyspepsia which does not seem to yield to ordinary treatment. While the symptoms seem to be similar to those of ordinary indigestion, yet the medicines universally prescribed do not seem to restore the patient's normal condition.



Mrs. M. Wright

Mrs. Pinkham claims that there is a kind of dyspepsia that is caused by a derangement of the female organism, and which, while it causes a disturbance similar to ordinary indigestion, cannot be relieved without a medicine which not only acts as a stomach tonic, but has a peculiar tonic effect on the female organism.

As proof of this theory we call attention to the case of Mrs. Maggie Wright, Brooklyn, N. Y., who was completely cured by Lydia E. Pinkham's Vegetable Compound after everything else had failed. She writes:

"For two years I suffered with dyspepsia which so degenerated the entire system that I was unable to attend to my daily duties. I felt weak and nervous, and nothing that I ate tasted good and it caused a disturbance in my stomach. I tried different dyspepsia cures, but nothing seemed to help me. I was advised to give Lydia E. Pinkham's Vegetable Compound a trial, and was happily surprised to find that it acted like a fine tonic, and in a few days I began to enjoy and properly digest my food. My recovery was rapid, and in five weeks I was a well woman. I have recommended it to many suffering women."

No other medicine in the world has received such widespread and unqualified endorsement or has such a record of cures of female troubles, as has Lydia E. Pinkham's Vegetable Compound.

A Living Monument.

If we were to assemble all those who have been cured of heart disease by Dr. Miles' Heart Cure, and who would to-day be in their graves had not Dr. Miles' been successful in perfecting this wonderful heart specific, they would populate a large city.

What a remarkable record—a breathing, thinking, moving monument, composed of human lives,—that for which every other earthly possession is sacrificed.

The Miles Medical Co. receive thousands of letters from these people like the following:

"I feel indebted to the Dr. Miles' Heart Cure for my life. I desire to call the attention of others suffering as I did to this remarkable remedy for the heart. For a long time I had suffered from shortness of breath after any little exertion, palpitation of the heart; and at times terrible pain in the region of the heart so serious that I feared that I would some time drop dead upon the street. One day I read one of your circulars, and immediately went to my druggist and purchased two bottles of the Heart Cure, and took it according to directions, with the result that I am entirely cured. Since then I never miss an opportunity to recommend this remedy to my friends who have heart trouble; in fact I am a traveling advertisement, for I am widely known in this locality."

J. H. BOWMAN,
Manager of Lebanon Democrat,
Nashville, Tenn.

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

Miles Medical Co., Elkhart, Ind.

consignee, any such carrier shall transport property from one State, Territory, or the District of Columbia to any other State, Territory, or the District of Columbia, or foreign country, who shall knowingly by such employee, agent, officer, or otherwise, directly or indirectly, by or through any means or devise whatsoever, receive or accept from such common carrier any sum of money or other valuable consideration as a rebate or offset against the regular charges for transportation of such property, as fixed by the schedules of rates provided for in this act, shall in addition to any penalty provided in this act forfeit to the United States a sum of money three times the amount of money so received or accepted, to be ascertained by the trial court; and the Attorney General of the United States is authorized and directed whenever he has reasonable grounds to believe that any person, corporation, or company has knowingly received or accepted from any such common carrier any sum of money or other valuable consideration as a rebate or offset as aforesaid, to institute in any court of the United States of competent jurisdiction, a civil action to collect the said sum or sums so forfeited as aforesaid; and in the trial of said action all such rebates or other considerations so received or accepted for a period of six years prior to the commencement of the action, may be included therein, and the amount recovered shall be three times the total amount of money, or three times the total value of such consideration, so received or accepted, or both, as the case may be."

INVESTIGATIONS BY THE COMMISSION.

Sec. 3. That section 14 of said act, as amended March 2, 1889, be amended so as to read as follows:

"Sec. 14. That whenever an investigation shall be made by said Commission, it shall be its duty to make a report in writing in respect thereto, which shall state the conclusions of the Commission, together with its decision, order, or requirement in the premises; and in case damages are awarded such report shall include the findings of fact on which the award is made.

"All reports of investigations made by the Commission shall be entered on record, and a copy thereof shall be furnished to the party who may have complained, and to any common carrier that may have been complained of.

"The Commission may provide for the publication of its reports and decisions in such form and manner as may be best adapted for public information and use, and such authorized publications shall be competent evidence of the reports and decisions of the Commission therein contained in all courts of the United States and of the several States without any further proof or authentication thereof. The Commission may also cause to be printed for early distribution its annual reports."

Sec. 4. That section 15 of said act be amended so as to read as follows:

DUTY OF COMMISSION UPON COMPLAINT.

"Sec. 15. That the Commission is authorized and empowered, and it shall be its duty, whenever, after full hearing upon a complaint made as provided in section 13 of this act, or upon complaint of any common carrier, it shall be of the opinion that any of the rates, or charges whatsoever, demanded, charged, or collected by any common carrier or carriers, subject to the provisions of this act, for the transportation of persons or property as defined in the first section of this act, or that any regulations or practices whatsoever of such carrier or carriers affecting such rates are unjust or unreasonable, or unjustly discriminatory, or unduly preferential or prejudicial, or otherwise in violation of any of the provisions of this act, to determine and prescribe what will be the just and reasonable rate or rates, charge or charges, to be thereafter observed in such case as the maximum to be charged; and what regulation or practice in respect to such transportation is just, fair and reasonable to be thereafter followed; and to make an order that the carrier shall cease and desist from such violation, to the extent to which the Commission find the same to exist, and shall not thereafter publish, demand, or collect any rate or charge for such transportation in excess of the maximum rate or charge so prescribed, and shall conform to the regulation or practice so prescribed.

ORDERS OF COMMISSION TAKE EFFECT AND CONTINUE IN FORCE.

"All orders of the Commission, except orders for the payment of money, shall take effect within such reasonable time, not less than thirty days, and shall continue in force for such

period of time, not exceeding two years, as shall be prescribed in the order of the Commission, unless the same shall be suspended or modified or set aside by the Commission or be suspended or set aside by a court of competent jurisdiction. Whenever the carrier or carriers, in obedience to such order of the Commission or otherwise, in respects to joint rates, fares, or charges, shall fail to agree among themselves upon the apportionment or division thereof, the Commission may after hearing make a supplemental order prescribing the just and reasonable proportion of such joint rate to be received by each carrier party thereto, which order shall take effect as a part of the original order.

ESTABLISH THROUGH RATES.

"The Commission may also, after hearing on a complaint, establish through routes and joint rates as the maximum to be charged and prescribe the division of such rates as hereinbefore provided, and the terms and conditions under which such through routes shall be operated, when that may be necessary to give effect to any provision of this act, and the carriers complained of have refused or neglected to voluntarily establish such through routes and joint rates, provided no reasonable or satisfactory through route exists, and this provision shall apply when one of the connecting carriers is a water line.

REGULATE ALLOWANCE FOR USE OF INSTRUMENTALITY.

"If the owner of property transported under this act directly or indirectly renders any service connected with such transportation, or furnishes any instrumentality used therein, the charge and allowance therefor shall be no more than is just and reasonable, and the Commission may, after hearing on a complaint determine what is a reasonable charge as the maximum to be paid by the carrier or carriers for the service so rendered or for the use of the instrumentality so furnished, and fix the same by appropriate order, which order shall have the same force and effect and be enforced in like manner as the orders above provided for in this section.

"The foregoing enumeration of powers shall not exclude any power which the Commission would otherwise have in the making of an order under the provisions of this act."

Sec. 5. That section 16 of said act, as amended March 2, 1889, be amended so as to read as follows:

AWARD OF DAMAGES.

"Sec. 16. That if, after hearing on a complaint made, as provided in section 13 of this act, the Commission shall determine that any party complainant is entitled to an award of damages under the provisions of this act for a violation thereof, the Commission shall make an order directing the carrier to pay to the complainant the sum to which he is entitled on or before a day named.

ENFORCED IN COURT.

"If a carrier does not comply with an order for the payment of money within the time limit in such order, the complainant, or any person for whose benefit such order was made, may file in the Circuit Court of the United States for the district in which he resides or in which is located the principal operating office of the carrier, or through which the road of the carrier runs, a petition setting forth briefly the causes for which he claims damages, and the order of the Commission in the premises. Such suit shall proceed in all respects like other civil suits for damages, except that on the trial of such suit the findings and order of the Commission shall be prima facie evidence of the facts therein stated, and except that the petitioner shall not be liable for costs in the Circuit Court nor for costs at any subsequent stage of the proceedings unless they accrue upon his appeal. If the petitioner shall finally prevail, he shall be allowed a reasonable attorney's fee, to be taxed and collected as a part of the costs of the suit. All complaints for the recovery of damages shall be filed with the Commission within two years from the time the cause of action accrues, and not after, and a petition for the enforcement of an order for the payment of money shall be filed in the Circuit Court within one year from the date of the order, and not after; provided, that claims accrued prior to the passage of this act may be presented within one year.

"In such suits all parties in whose favor the Commission may have made an award for damages by a single order may be joined as plaintiffs, and all of the carriers parties to such order awarding such damages may be joined

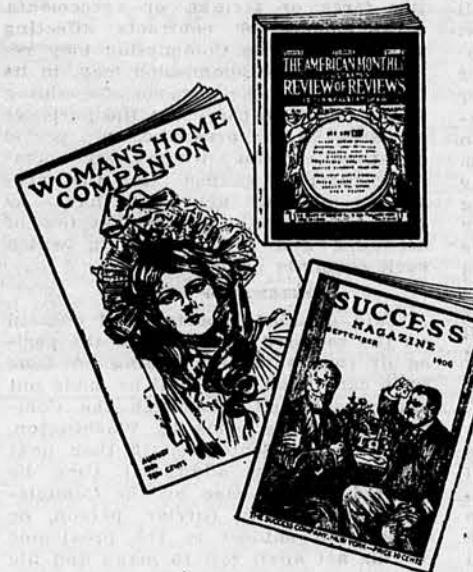


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COURT ENFORCE ORDERS OF COMMISSION.

"If any carrier fails or neglects to obey any order of the Commission, other than for the payment of money, while the same is in effect, any party injured thereby, or the Commission in its own name, may apply to the Circuit Court in the district where such carrier has its principal operating office, or in which the violation of disobedience of such order shall happen, for an enforcement of such order. Such application shall be by petition, which shall state the substance of the order and the respect in which the carrier has failed of obedience, and shall be served upon the carrier in such manner as the court may direct, and the court shall prosecute such inquiries and make such investigations, through such means as it shall deem needful in the ascertainment of the facts at issue or which may arise upon the hearing of such petition. If, upon such hearing as the court may determine to be necessary, it appears that the order was regularly made and duly served, and that the carrier is in disobedience of the same, the court shall enforce obedience to such order by a writ of injunction, or other proper process, mandatory or otherwise, to restrain such carrier, its officers, agents, or representatives, from further disobedience of such order, or to enjoin upon it, or them, obedience to the same; and in the enforcement of such process the court shall have those powers ordinarily exercised by it in compelling obedience to its writs of injunction and mandamus.

MAY APPEAL TO U. S. SUPREME COURT.

"From any action upon such petition an appeal shall lie by either party to the Supreme Court of the United States, and in such court the case shall have priority in hearing and determination over all other causes except criminal causes, but such appeal shall not vacate or suspend the order appealed from.

CARRIERS MAY SEEK RELIEF IN COURT.

"The venue of suits brought in any of the circuit courts of the United States against the Commission to enjoin, set aside, annul, or suspend any order or requirement of the Commission shall be in the district where the carrier against whom such order or requirement may have been made has its principal operating office, and may be bought at any time after such order is promulgated. And if the order or requirement has been made against two or more carriers then in the district where any one of said carriers has its principal operating office, and if the carrier has its principal operating office in the District of Columbia, then the venue shall be in the district where said carrier has its principal office; and jurisdiction to hear and determine such suits is hereby vested in such courts. The provisions

of 'An act to expedite the hearing and determination of suits in equity, and so forth,' approved February 11, 1903, shall be, and are hereby, made applicable to all such suits, including the hearing on an application for a preliminary injunction, and are also made applicable to any proceeding in equity to enforce any order or requirements of the Commission, or any of the provisions of the act to regulate commerce approved February 4, 1887, and all acts amendatory thereof or supplemental thereto. It shall be the duty of the Attorney General in every such case to file the certificate provided for in said expediting act of February 11, 1903, as necessary to the application of the provisions thereof, and upon appeal as therein authorized to the Supreme Court of the United States, the case shall have in such court priority in hearing and determination over all other causes except criminal causes: Provided, that no injunction, interlocutory order or decree suspending or restraining the enforcement of an order of the Commission shall be granted except on hearing after not less than five days' notice to the Commission. An appeal may be taken from any interlocutory order or decree granting or continuing an injunction in any suit, but shall lie only to the Supreme Court of the United States: Provided further, that the appeal must be taken within thirty days from the entry of such orders or decree and it shall take precedence in the Appellate Court over all other causes, except causes of like character and criminal causes.

EVIDENCE.

"The copies of schedules and tariffs of rates, fares, and charges, and of all contracts, agreements, or arrangements between common carriers filed with the Commission as herein provided, and the statistics, tables, and figures contained in the annual reports of carriers made to the Commission, as required by the provisions of this act, shall be preserved as public records in the custody of the secretary of the Commission, and shall be received as prima facie evidence of what they purport to be for the purpose of investigations by the Commission and in all judicial proceedings; and copies of or extracts from any of said schedules, tariffs, contracts, agreements, arrangements, or reports made public records as aforesaid, certified by the secretary under its seal, shall be received in evidence with like effect as the originals."

Sec. 6. That a new section be added to said act immediately after section 16, to be numbered as section 16a, as follows:

REHEARING.

Sec. 16a. That after a decision, order or requirement has been made by the Commission in any proceeding, any party thereto may at any time make application for rehearing of the same, or any matter determined therein, and it shall be lawful for the Commission in its discretion to grant such a rehearing if sufficient reason therefor be made to appear. Application for rehearing shall be governed by such general rules as the Commission may establish. No such application shall excuse any carrier from complying with or obeying any decision, order, or requirement of the Commission, or operate in any manner to stay or postpone the enforcement thereof, without the special order of the Commission. In case a rehearing is granted, the proceedings thereupon shall conform as nearly as may be to the proceedings in an original hearing, except as the Commission may otherwise direct; and if, in its judgment, after such rehearing and the consideration of all facts, including those arising since the former hearing, it shall appear that the original decision, order, or requirement is in any respect unjust or unwarranted, the Commission may reverse, change, or cission, order, or requirement made after such rehearing reversing, changing, or modifying the original determination, shall be subject to the same provisions as an original order.

CARRIERS MUST REPORT ANNUALLY.

Sec. 7. That section 20 of said act be amended so as to read as follows: "Sec. 20. That the Commission is hereby authorized to require annual reports from all common carriers subject to the provisions of this act, and from the owners of all railroads engaged in interstate commerce as defined in this act, to prescribe the manner in which such reports shall be made, and to require from such carriers specific answers to all questions upon which the Commission may need information. Such annual reports shall show in detail the amount of capital stock issued, the amounts paid therefor, and the manner of payment for

the same; the dividends paid, the surplus fund, if any, and the number of stockholders; the funded and floating debts and the interest paid thereon; the cost and value of the carrier's property, franchises and equipments; the number of employees and the salaries paid each class; the accidents to passengers, employees and other persons, and the causes thereof; the amounts expended for improvements each year, how expended, and the character of such improvements; the earnings and receipts from each branch of business and from all sources; the operating and other expenses; the balances of profit and loss; and a complete exhibit of the financial operations of the carrier each year, including an annual balance sheet. Such reports shall also contain such information in relation to rates or regulations concerning fares or freight, or agreements, arrangements or contracts affecting the same as the Commission may require; and the Commission may, in its discretion, for the purpose of enabling it the better to carry out the purposes of this act, prescribe a period of time within which all common carriers subject to the provisions of this act shall have, as near as may be, a uniform system of accounts, and the manner in which such accounts shall be kept.

CONTENTS OF REPORTS.

"Said detailed reports shall contain all the required statistics for the period of twelve months ending on June 30 in each year, and shall be made out under oath and filed with the Commission, at its office in Washington, on or before September 30 next following, unless additional time be granted in any case by the Commission; and if any carrier, person, or corporation subject to the provisions of this act shall fail to make and file said annual reports within the time above specified, or within the time extended by the Commission for making and filing the same, or shall fail to make specific answer to any question authorized by the provisions of this section within thirty days from the time it is lawfully required to do so such parties shall forfeit to the United States the sum of \$100 for each and every day it shall continue to be in default with respect thereto. The Commission shall also have authority to require said carriers to file monthly reports of earnings and expenses or special reports within a specified period, and if any such carrier shall fail to file such reports within the time fixed by the Commission it shall be subject to the forfeitures last above provided.

"Said forfeitures shall be recovered in the manner provided for the recovery of forfeitures under the provisions of this act.

"The oath required by this section may be taken before any person authorized to administer an oath by the laws of the State in which the same is taken.

ACCOUNTS.

"The Commission may, in its discretion, prescribe the forms of any and all accounts, records, and memoranda to be kept by carriers subject to the provisions of this act, including the accounts, records, and memoranda of the movement of traffic as well as the receipts and expenditures of moneys. The Commission shall at all times have access to all accounts, records, and memoranda kept by carriers subject to this act, and it shall be unlawful for such carriers to keep any other accounts, records, or memoranda than those prescribed or approved by the Commission, and it may employ special agents or examiners, who shall have authority under the order of the Commission to inspect and examine any and all accounts, records, and memoranda kept by such carriers. This provision shall apply to receivers of carriers and operating trustees.

"In case of failure or refusal on the part of any such carrier, receiver, or trustee to keep such accounts, records, and memoranda on the books and in the manner prescribed by the Commission, or to submit such accounts, records, and memoranda as are kept to the inspection of the Commission or any of its authorized agents or examiners, such carrier, receiver, or trustee shall forfeit to the United States the sum of \$500 for each such offense and for each and every day of the continuance of such offense, such forfeitures to be recoverable in the same manner as other forfeitures provided for in this act.

FALSE ENTRIES.

"Any person who shall willfully make any false entry in the accounts of any book of accounts or in any record or memoranda kept by a carrier, or who shall willfully destroy, mutilate, alter, or by any other means or device falsify the record of any such account, record, or memorandum, or who shall willfully neglect or fail to make full, true, and correct entries in such accounts, records, or memoranda of all facts and transactions appertaining to the carrier's business, or shall keep any other accounts, records, or memoranda than those prescribed or approved by the Commission, shall be deemed guilty of a misdemeanor and shall be subject, upon conviction in any court of the United States of competent jurisdiction, to a fine of not less than \$1,000 nor more than \$5,000 or imprisonment for a term not less than one year nor more than three years, or both such fine and imprisonment.

"Any examiner who divulges any fact or information which may come to his knowledge during the course of such examination, except in so far as he may be directed by the Commission or by a court or judge thereof, shall be subject, upon conviction in any court of the United States of competent jurisdiction, to a fine of not more than \$5,000, or imprisonment for a term not exceeding two years, or both.

CIRCUIT COURTS HAVE JURISDICTION.

"That the Circuit and District Courts of the United States shall have jurisdiction, upon the application of the Attorney-General of the United States at the request of the Commission, alleging a failure to comply with or a violation of any of the provisions of said act to regulate commerce or of any act supplementary thereto or amendatory thereof by any common carrier, to issue a writ or writs of mandamus commanding such common carrier to comply with the provisions of said acts, or any of them.

"And to carry out and give effect to the provisions of said acts, or any of them, the Commission is hereby authorized to employ special agents or examiners who shall have power to administer oaths, examine witnesses, and receive evidence.

LIABILITY OF CARRIER FOR LOSS OR DAMAGE TO GOODS.

"That any common carrier, railroad, or transportation company receiving property for transportation from a point in one State to a point in another State shall issue a receipt or bill of lading therefor and shall be liable to the lawful holder thereof for any loss, damage, or injury to such property caused by it or by any common carrier, railroad, or transportation company to which such property may be delivered or over whose line or lines such property may pass, and no contract, receipt, rule, or regulation shall exempt such common carrier, railroad, or transportation company from the liability hereby imposed: Provided, that nothing in this section shall deprive any holder of such receipt or bill of lading of any remedy or right of action which he has under existing law.

"That the common carrier railroad, or transportation company issuing such receipt or bill of lading shall be entitled to recover from the common carrier, railroad, or transportation company on whose line the loss, damage, or injury shall have been sustained the amount of such loss, damage, or injury as it may be required to pay to the owners of such property, as may be evidenced by any receipt, judgment, or transcript thereof."

COMMISSION ENLARGED TO SEVEN MEMBERS.

Sec. 8. That a new section be added to said act at the end thereof, to be numbered as section 24, as follows:

"Sec. 24. That the Interstate Commerce Commission is hereby enlarged so as to consist of seven members with terms of seven years, and each shall receive ten thousand dollars compensation annually. The qualifications of the Commissioners and the manner of the payment of their salaries shall be as already provided by law. Such enlargement of the Commission shall be accomplished through appointment by the President, by and with the advice and consent of the Senate, of two additional Interstate Commerce Commissioners, one for a term expiring December 31, 1911, one for a term expiring December 31, 1912. The terms of the present Commissioners, or of any successor appointed to fill a vacancy caused by the death or resignation of any of the present Commissioners, shall expire as heretofore provided by law. Their successors and the successors of the additional Commissioners herein provided for shall be appointed for the full term of seven years, except that any person appointed to fill a vacancy shall be appointed only for the unexpired term of the Commissioner whom he shall succeed. Not more than four Commissioners shall be appointed from the same political party."

Sec. 9. That all existing laws relat-

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* * *
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P. O.

ing to the attendance of witnesses and the production of evidence and the compelling of testimony under the act to regulate commerce and all acts amendatory thereof shall apply to any and all proceedings and hearings under this act.

Sec. 10. That all laws and parts of laws in conflict with the provisions of this act are hereby repealed, but the amendments herein provided for shall not effect causes now pending in courts of the United States, but such causes shall be prosecuted to a conclusion in the manner heretofore provided by law.

Sec. 11. That this act shall take effect and be in force from and after its passage.

* * *
"The Whole Family Group." The Delinquent one year; McClure's Magazine one year; The World's Work one year. The Kansas Farmer one year; total value, \$5. OUR PRICE, \$2.50. The Kansas Farmer Co., Topeka, Kans.

The Veterinarian

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

If in addition to having the letter answered in The Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Ailing Calves.—My calves stand around and get stiff in legs; don't want to move. Have lost one and have another sick. J. H. G.

Chuckey, Tenn.

Answer.—From the symptoms you give I think the cattle have blackleg; particularly if they have swelling in the quarters or some other part, and if when rubbed there is distinctly heard a crackling sound. If you open that swelling after the animals have died, the muscles will be found black with a frothy material exuding from them when squeezed. If you will write more fully of particulars and symptoms, we may be able to help you. We are mailing you a bulletin on blackleg which may give you some idea of the disease.

Scours.—I have a 5-year-old cow that has had scours since she calved eight weeks ago. She is falling in milk. Answer.—Give the cow $\frac{1}{2}$ pound of epsom salts and clean everything out of her that is giving her trouble. Then give her an ounce of tincture of opium in a pint of water twice daily, until she stops scouring.

Indigestion.—Mare had a colt in July; bred her back but she aborted 10 days ago. Had fed her about five doses of oil-meal. A year ago she began to throw her head as if bot-flies were bothering. She rubbed her nose so much this summer it was sore, and now when I am working her she keeps throwing her head. Sylvia, Kans. P. T.

Answer.—Your mare is suffering from indigestion and so you should feed her carefully, giving only a limited amount of hay, but feed plenty of bran and corn-chop with some ground oats. If she is very greedy to eat grain, arrange a self-feeder box so that she can't eat the grain too fast. A self-feeder similar to a poultry self-feeder can be arranged in the grain-box. Then give the following tonic: tincture nux vomica, 1 ounce, tincture gentian, 2 ounces, tincture iron chloride, $\frac{1}{2}$ ounce, water sufficient to make a quart. Shake well and give an ounce of this mixture in a syringe into the mouth daily. Grasp the tongue and open the mouth and then throw the medicine from the syringe well back on the base of the tongue.

Horse With Mange.—Will you please send remedy for mange in horses. I have a black mare, 10 years old, that about a year ago broke out with pimples on neck and shoulder. They would stay for a week or two and then disappear again. The hair comes off in spots and she rubs and bites herself nearly all the time. Have tried carbolic acid, lard and sulfur mixed, but without any good results. G. A.

LaHarpe, Kans.

Answer.—We are sending you a press bulletin on the preparation and use of lime and sulfur dip. I think if you will use this dip on your animals that you will soon find that it will rid them of the mange.

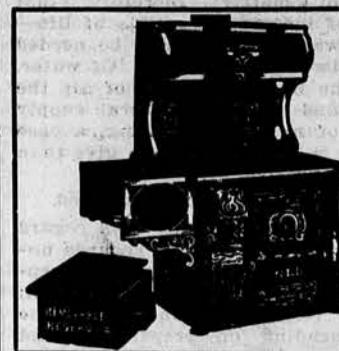
Ailing Pigs.—Please advise me or give me a remedy for my pigs, weighing 100 pounds, with the following symptoms: sore eyes that water; stiff; hardly able to move around; eat a little. Have been giving them sour buttermilk. G. F. J.

Answer.—We are sending you a press bulletin containing a formula which is recommended by the Government as a tonic for pigs. Use this tonic and I think you will find that your pigs will improve.

Mare Out of Condition.—As I see in the veterinary column that you answer inquiries, I would like to know if you can tell me what is the matter with my mare. She has been ailing for some time and is getting poor. I turned her out on pasture and put her in the barn every night. She has a good appetite, but stays poor.

Mound Valley, Kans. J. H. H.

Answer.—I think you ought to have your horse's teeth examined by a competent veterinarian and then secure any of the condition powders on the market that you can buy from the nearest town, and I believe that you



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JUDSON A. TOLMAN COMPANY, 7738 Woodlawn Avenue, Chicago, Illinois

will find your mare will make a rapid recovery.

Mare out of Condition.—I have a valuable bay mare, 7 years old, weighing about 1,200 pounds, that foaled when four years old, raising a fine colt, but has failed to get with foal again though bred repeatedly each season since. The mare has always been kept in good condition and seems to feel good.

Soldier, Kans. G. H. C.

Answer.—I would advise you to have used a gelatin capsule the next time that you have your mare bred and see if that will not be successful.

Colt Hoof Bound.—My 4-year-old colt is, I suppose, hoof bound in left front foot. Has been affected all his life but has never been treated or worked. If you would advise shoeing, kindly explain the kind of shoe. J. L.

Leon, Kans.

Answer.—If you will have your horse shod with a bar shoe, having the nails placed as far forward to the toe as possible, I think you will find that nature will do the necessary spreading of the foot.

Warts on Horse.—I have a 5-year-old horse that jerks and twitches all over on cool mornings; also has seed lant on outer side of knee joint. J. A.

Ponca City, Okla.

Answer.—Your horse may possibly be cold. He may be very thin skinned. For the seed wart I would recommend that you remove it. If it is located near the joint, be careful that you do not open the joint. You can heal the wound by using some good disinfectant.

Stiff Mare.—My bay mare, 5 years old, when taken out of stable, seems lame in fore feet and stiff all over.

Mosheim, Tenn. A. M. S.

Answer.—Your mare has probably been stiffened up from some cause or other and it is necessary for the muscles to get limbered up somewhat before she will move freely. There is very little that can be done for such a condition. It is better to use preventive treatment and not feed or water an animal when warm.

Colic and Indigestion.—I have an old horse that is subject to colic in the fall. I fed him corn and prairie hay until about a week ago when I started to feed cane in place of hay. Has the cane anything to do with the trouble or what is the cause? Have not worked the horse very much lately. Fed new corn all this month. When sick the horse rolls over and over and lies on his back until relieved. The other day when he was sick I gave him linseed-oil and turpentine and some spirits of nitre. J. C. T.

Vesper, Kans.

Answer.—We are sending you an Agricultural Review which gives symptoms, treatment, and the causes of colic and indigestion in horses and I think it will give you the necessary information in order for you to properly treat your animal.

Lame Mare.—My fine, black 7-year-old mare is lame in right foot. She seems better in muddy weather when ground is soft. G. J.

Macksville, Kans.

Answer.—If you think your mare's foot is hoof-bound, would advise you to poultice the foot, using bran, changing the poultice just as often as it gets cold. Continue this for a couple of days. This will help draw some of the fever out of the foot. Then have the blacksmith cut a groove down on the outside of the foot so as to allow the foot to spread every time she steps (similar to the arrangement that is devised for a person when he has a corn and cuts a boot to allow the foot to spread). Then apply a fly blister around the top of the hoof, keeping the horse's head tied short enough so he can not reach the blister for a day or so after applying it. It will be well to examine the foot carefully for corns. If, after trying this treatment for a reasonable length of time, you get no relief for the foot, write us again.

Worms in Horse.—I have a dark brown mare, 12 years old, that has spells. She first commenced to tremble and draw and apparently cramped. She

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seems blind, starts sideways and runs up against anything that she comes across. She shows her teeth and chews like a mad sow. I have seen her down in the barn two or three times when she seemed perfectly crazy. Have seen her have a few of these spells in the pasture. She goes round and round to the left and falls or starts off in a trot or a run. Sometimes when she falls will jump up and run fifty or a hundred yards, then stop and stand four or five minutes. These spells last from ten to twenty minutes and she will have three or four a month. W. A. S.

Purdy, Mo.

Answer.—We are sending you a press bulletin on strongylus armatus worms which I think are causing the trouble in your animal. Try and follow the treatment advised in this press bulletin and I think you may be able to help your animal.

Nail Puncture.—I have a horse that stepped on a nail, running the nail about an inch and a half up into the foot. I pulled the nail out and poured turpentine into the hole where the nail was located. This happened three or four days ago. The horse is too lame now to put the foot to the ground. What can I do for him? B. H. D.

Peabody, Okla.

Answer.—The proper thing to do now is to trim out a good large quantity of the sole around the place where the nail went in. Keep going down into the foot until you come to some pus that has formed. Use strong hydrogen peroxide and pour directly into the cavity where the pus is and boil out the pus; then saturate a piece of cotton with the hydrogen peroxide and put down into the hole. Place the horse's foot in a poultice made of bran and change the poultice on the foot as often as it gets cold. Wash out the cavity where the pus is located about three times a day and after the pus is all out and there is no more soreness in the foot, you can discontinue the poulticing and irrigation with the hydrogen peroxide, but use the following to harden the foot in the place that has been trimmed out: Lead acetate 2 ounces, zinc sulfate $1\frac{1}{2}$ ounces; put in a pint of water.

Swelling on Mare's Head.—My bay mare, 7 years old, has a swelling on top of head just behind ears which increases and decreases in size. It was first noticed about two months ago.

Answer.—I would advise your having the following liniment put up for your mare, and use on the head daily until sore, then withhold a day or two and begin again: 6 ounces tincture capsici, 4 ounces tincture cantharides, 6 ounces compound soap liniment.

Wind-Broken Mare.—My 6-year-old bay mare is wind-broken; did it plowing corn with her, but did not know it at the time. I had just taken her out of pasture and she was soft. When she gets warm, she slobbers or froths at the mouth. L. K.

Iola, Kans.
Answer.—I would advise you to have the mare's teeth floated by some one who understands the business. Then we might prescribe a preparation which will help her, although we can not guarantee a cure. I wouldn't feed much hay or practically none. Wet

the bran and by mixing in oats and a little corn-chop the horse will make it all right without hay.

Tuberculosis and Garget.—I wish to ask you if tuberculosis and garget in a cow's udder are the same thing, and would you recommend the camphor ointment in either case? J. P.

Bedford, Iowa.

Answer.—Tuberculosis and garget in cow's udder are not the same. If the animal has tuberculosis of the udder, it should not be used in the dairy. Camphor ointment is all right for garget.

Hogs With Cough.—I wish to ask through THE KANSAS FARMER about coughing in hogs. My hogs go about coughing and sit down with front feet raised up. They cough for a long time. Also tell me what to do for mange on pigs. T. J. H.

Pea Ridge, Ark.

Answer.—You had better secure some of the Government hog-cholera cure for your hogs. I think it will prevent their coughing. It can be secured from almost any druggist.

Caked Bag.—My cow was first affected with caked bag a year ago. In the fall the trouble began in another teat and she went dry. When she became fresh this spring, the same teat was affected. It finally went dry, and the trouble commenced in the first one again. Above the teat that went dry the bag is severely caked and swollen and the milk is sometimes bloody.

Rock Creek, Ida. J. S. C.

Answer.—Have two ounces of gum camphor dissolved or melted with 8 ounces of vaseline and stir until cool. Apply to affected part of the udder three times daily with considerable rubbing. If you find that this doesn't take all the cake out of the bag, then use the fluid extract of poke root, twice daily, with considerable rubbing. If this doesn't do the work, use a hot poultice of bran or something similar, changing as often as it gets cold.

Profuse Salivation—Fistulous Weters.—I have a dark gray, 12-year-old horse that weighs about 1,350 pounds. He is not doing very well. Saliva flows so from his mouth while eating that when through eating, his feed-box has one-half inch of water in it. I always have a few small holes in the bottom of the feed-box to let the water out. He keeps very thin for not being worked hard and is fed well. He eats grain very heartily, but will eat very little hay. He also rubs his tail and neck all the time.

I also have a mare that has a fistula; has a large swelling on top of the neck under collar which has broken. It has formed a tube-like passage down through the neck and has broken about five inches lower down. Matter flows from this lower hole which has a very bad odor. The disease is now of from three to four months' standing. The mare is 7 years old and is in fair condition. J. T. M.

Lake Wilson, Minn.

Answer.—I believe that if you will have your horse's teeth examined you will find that they are diseased or too long. This is causing the profuse salivation. Worms are the cause of his rubbing the tail. Better use four

(Continued on page 1335.)

Home Departments

CONDUCTED BY RUTH COWGILL.

The Family Bible.

'Twixt sober boards, girth thick, page large,
With plain, square text and generous marge,
And cherished plates, thrice sacred it!
First, for its wealth of Holy Writ;
Again, for hands that forth it bore
And oped it, to disclose its lore;
Again, for crypt where long has stood
The record of a house and blood.

Oh, peaceful morn! Oh, gentle eves!
When father waked to speech its leaves,
And all the household, gathered round,
Fed on the manna of the sound;
And in a reverent circle there
Upon their knees were joined in prayer—
With quavering age and childhood's throat
United in one common note.

Close shut within this hallowed tome
We read the story of a home.
Here lined, is told beneath each head
When father, mother, children, wed—
Who came to bless sweet joys—and they
With trembling and reluctant pen
Slow added, e'en as God decreed,
The roll of those who filled his need.

Dear hands that once its pages turned
Have gained the rest they well had earned;
Dear forms that once knelt side by side
Have strayed afar, are scattered wide;
The covers show the print of years;
The records yield to time and tears;
But in its majesty of truth
The text preserves eternal youth!

—Edwin L. Sabin.

What Shall We Eat, and How?

This is becoming an important and vital question, and so many theories are given and such a multitude of ideas as to the kind and proper proportion of food best suited for building up and sustaining the body are advanced that sometimes we are at a loss to know just what to eat or whether we had better risk anything. Indeed, there are many underfed people, who are almost starved because they are afraid of eating something that will not agree with their stomachs. There are, without doubt, foods that have more nutritive value and are more easily digested than others. That some foods supply the needs of the body better than others, and that what is not needed for its use is superfluous and not only overworks the stomach, but goes into the system somewhere and causes disease and decay, is now an undisputed fact.

If one can not always be sure of just the right things to eat, he can be pretty sure how. Some claim that it is vastly more important to thoroughly masticate the food than to be particular about the kind. Dr. Mary Stout read a paper before the Indian Creek Farmers' Institute on this subject, in which she says:

"It is so simple that it seems lamentable and even ridiculous that it has not been discovered before. Hundreds of books on the physiology of digestion have mentioned the importance of chewing the food, but none of them with the emphasis necessary to change one's habits entirely and produce far-reaching benefits. This discovery is simply the mastication of each mouthful of food until no taste is left in the morsel and the swallowing has been an involuntary process. Its simplicity is one of the formidable difficulties in the way of its general adoption; people will climb mountains, take nauseous drugs, endure all kinds of disagreeable treatment, but this is too simple. Moreover, even when the mind is convinced, and one starts in with the novel method, such is the inveterate persistence of long-standing bad habits that for a long period eternal vigilance becomes the price of rational mastication."

I attended a very delightful club-meeting a few days ago, where the subject was "Uncooked Foods." Following the program, the hostess served refreshments of the uncooked variety, which were pleasant to the palate and seemed to fill the needs of the body, if the appetite is a guide in the matter, for several were heard to remark that they had no further need for anything more to eat that day.

The refreshments consisted of a delicious salad, made of fruits and nuts of various kinds, covered with a generous supply of whipped cream, served on a lettuce leaf, unfired bread, dates stuffed with nuts and rolled in pulverized sugar, and pignolia nuts. These nuts are the product of the Italian pine-tree. They have not become popular on account of the large amount of rosin and crude turpentine they contain, and the covering of a

fine red dust which renders them unpalatable and unwholesome. But there is a process for refining this nut which removes the piney taste, and, it is claimed, makes it a perfect substitute for fat and lean meat. The unfired bread is in the shape of wafers and looks very much like them. It is a combination of cereals and nuts grouped together in some way and dried in an electric-light oven, as the sun can not be depended upon. It is made in New York City by the only company of its kind in the world. It is said that this bread contains all the nutrition needed for the body. It does not have a raw taste by any means, but really is quite good to eat.

The recipe for the salad is given in another column under the name of "Nautilus Salad," named by the hostess.

Liberal Living on Narrow Means.

MINNIE VAN PATTEN, CENTRALIA, KANS.

"Nothing is big enough nor interesting enough to make up to woman for the home. However far the advanced woman may wander, she finds herself constantly and of necessity reverting to the commonplace questions of food, clothing, and shelter."—Mary Moody Pugh.

We will first agree on a standard of liberality. Things suffer or gain by comparison, owing to what they are judged by. What is luxury to me may mean penury to you. Perhaps we err oftenest in life in estimating values. We think we believe, "The life is more than meat, and the body is more than raiment," but do our actions lead others so to judge us? "To have what one wants is wealth; to be able to do without is power." A knowledge that the health, strength, and morals even, of a person depend largely upon what passes through his mouth; that even the turn of his thinking is modified by what he eats, should lead all intelligent women to make food a subject of conscientious study. It can not be said that any particular kind of food will ultimately produce a poem; but we may be sure that the best work, the noblest thoughts, the most original ideas will not come from a dyspeptic, underfed, or in any way ill-nourished individual—nor from a glutton. Underfed nations never produce leaders in intellectual work. Meat eaters are said to be savage. Much wickedness is due to mal-nutrition. Children of poorly fed mothers often have criminal tendencies. So we have come to look at domestic science in its generally accepted meaning as one of the most inviting subjects of the day, and worthy of the wisest thought of the Nation. We should indeed be liberal with our tables when it becomes a matter of conscience, but liberality does not mean loaded. Some one has said: "A person whose physical being is well nourished and properly groomed will scarcely be an unbeliever. You can almost feed a man into the Kingdom of God." I do not know as to this. Perhaps some of you can tell us in discussion.

THE AMOUNT WE SHOULD EAT.

As we eat we think, we feel, we pray, and we act. "God's power is limited by man's excesses." Mal-treatment of the body is sin against nature, for the soul can not use an inefficient body and the body is the instrument of the soul. Our standard then of "liberality" will be enough for perfect nutrition. "More than enough is too much." Let us not assume the role of the "new rich." Let us not become superelaborate, for this was a mark of decadence with the Romans. When the actual needs of the body are met, more can but hinder the delicate mechanism. Mal-nutrition exists as often from over-eating as from lack of food. Here "knowledge is power." Animals feed, man eats. The man of sense and culture alone understands eating. We should first understand the needs of the body and that it creates nothing of itself, either of material or energy; all must come to it from without. It is not sufficient that enough of some sort of food be given; it must be of the right kind, properly prepared, and, so far as it lies in our power, served in a manner that shall appeal to the eye and palate. The manner of serving has marked effect on the digestive organs. Therefore, all cooks and homemakers should have a clear knowledge of the processes of digestion. The body loses each day, in the performance of its ordinary and usual functions, about nine

pounds of matter; therefore, that amount of income—essentials of life—of food, water, and air will be needed in every twenty-four hours. Of water, three-fifths by weight, and of air the Master hand gives the liberal supply to most of us for the taking, a case where He is "more willing to give than we are to receive."

HOW WE SHOULD STUDY OUR FOOD.

Our food we must study with regard to (1) its composition, as regards nutritive value; (2) with respect to preparation, dependent upon composition; (3) with respect to function in the body, depending on preparation and composition. We see by the papers that men are giving much thought to balanced rations in the animal kingdom, and we can not afford to do less for the animal man. In short, we must have a balanced ration—enough protein to build up and repair waste or wear of muscles; enough carbohydrates for heat and energy and fat; fruits for acids, etc. Protein forms about 18 per cent by weight of the body of the average man. From estimates made in Germany, where the most valuable analysis has been made, it has been decided that the proper amount of protein in each day's food should be about 4 ounces. This for a man of average weight, doing an average amount of work, below which he can not go without loss in health, in work, or in both. Foods yielding the most protein are meats, milk, eggs, cheese, fish—codfish and mackerel—wheat, beans, peas, and oatmeal. Carbohydrates, that is starches and sugars, are obtained from our vegetables principally. Fats yield about twice as much heat as carbohydrates. We must learn first how to build and repair the body tissue, and then how to heat and energize it. If we make the most common error of providing too much steam for the machinery, we meet the inevitable result—a break somewhere. We must learn that only proper cooking and digestion allows the supply, no matter how liberal, to meet the demand. We must learn that the market value of food materials does not, as a rule, indicate their nutritive value. For example, one pound of tenderloin, 25 cents, costs three or four times as much as one pound of flank, 6 cents. Ten cents will purchase of tenderloin 0.064 pound protein, or 415 calories. Ten cents will purchase of flank 0.284 pound protein, or 1,860 calories. However, foods rich in nutritive value are often difficult of digestion and require careful treatment to make them a satisfactory food. Our meats must be cooked slowly at lowest temperature in order not to toughen the albumenoids. Example—the white of egg at 184° F. appears like white threads; at 160° F. white, firm, tender, soft, jelly-like; fat 200° F. hard, close-grained, somewhat tough; at 212° F. firm, compact, solid; at 350° F. it becomes so tenacious that it is valuable as cement for marble. So we hard cook but never boil our eggs. Our starches we cook too little, and thus lose much if not all of their nutritive value. The little starch granule is a stubborn thing to handle. Let there be no ten-minute breakfast foods. Avoid fried dishes, as grease-coated starch is nearly or quite indigestible. Let me read you a thought from "Farm Furrows Turned by a Practical Farmer":

"The best variety of potato discovered to-day is the baked potato. There are mashed potatoes, fried potatoes, boiled potatoes, cream potatoes, Saratoga chips, and divers other sorts of greasy, watery, woody concoctions of the humble tuber, but nowhere reside the brooding tenderness of its loving mother as when baked to a turn, breaking into a smile before you. Ah, for the baked potato free from grease and contamination!"

SOME IDEAS ABOUT BREAD.

Then let us make above all things our "staff of life" worthy to be leaned upon. Not the barn-door slice of air cells and imagination, but rather the true standard of bread—tender, nutty-flavored crumb, close-celled and velvety to the touch—small loaves surrounded by well-browned crust and thoroughly baked through. No yeast germ should be left to begin fermentation the moment it reaches the congenial atmosphere of the stomach. Good authority says:

"Heavy, badly raised bread is a very dangerous food, and, unfortunately, very common. Probably more indigestion has been caused by it than all other badly cooked foods. Most of the diseases of the War of 1812 were due to defective food, and in 90 per cent of the cases, the flour was at fault." (Woodruff.)

It is almost the work of a lifetime to master any one of the sciences, but any intelligent woman may learn the

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essential principles underlying the science of nutrition. Having learned these, "good management is better than good income." It will be discovered, of course, that I have adhered to the teaching of the schools regardless of the fact that Topeka boasts a living specimen who advocates the exclusive use of raw foods. Perhaps her ancestors for ages back were different from mine.

COURSE DINNER FOR \$1 OR LESS.

In our practise work at the Kansas State Agricultural College we were given \$1 to furnish dinner for six, which must consist of at least three courses. (The professors magnanimously loaned themselves for the experiment, often asking "how" and "what" in order to "tell wife.") Following are two examples of menu given while there:

First Course.—Bread, 3 cents; meat souffle (milk, 1 pint, 2 cents, 3 eggs, 5½ cents), 7½ cents; vegetable, Irish potatoatoes, 5 cents; coffee and sugar, 5 cents; milk, 1 pint, 2 cents, cream, ½ pint, 5 cents, 7 cents.

Second Course.—Salad (nuts, 2½ cents, oranges, 6 cents, dressing, 6 cents), 14½ cents.

Third Course.—Dessert, grape sponge, 14½ cents. Total, 56 cents.

First Course.—Soup (beef 5 cents, flavoring 1 cent), 6 cents.

Second Course.—Meat (calf's heart, stuffed), 8 cents; vegetable, sweet potatoatoes, 5 cents; rolls, 3 cents; coffee 4 cents, sugar 1 cent, cream 2½ cents, 7 cents.

Third Course.—Salad (apples 1 cent, nuts 5 cents, celery 5 cents, dressing 4 cents), 15 cents.

Fourth Course.—Entree, cocoa and cream, 7 cents.

Fifth Course.—Dessert, grapes, 6 cents. Total, 58½ cents.

It was with some degree of satisfaction that I handed back the surplus cash, having learned by long hours of figuring on different dishes that even better than this could be done in one's own home, as the left-overs often disappeared when the next set of girls served the next day, as we took alternate days in serving. Narrow means need deter no one from a determination to serve well the body we demand so much of, and the Department of Agriculture will help you much with its excellent and free bulletins. Thompson's "Practical Dietetics" stands at the head of reference books, and is worth your money and your thought.

Some Recommended Recipes.

Cabbage and Celery Salad.—One of the best seasonable salads is of cabbage and celery. The fresh crispness of these succulent vegetables forms a toothsome relish with meat dishes. Put half a head of cabbage and a head of celery through the meat-chopper, cover with salt and water, and let them stand one hour; drain on a colander, then mix with the following dressing: Place one-half pint of vinegar and two tablespoonfuls of butter over the fire, and add gradually two well-beaten eggs; when the mixture commences to thicken, add one tablespoonful of made mustard, two tablespoonfuls of sugar, one teaspoonful of salt, and a dash of cayenne pepper. After you remove it from the fire add one-half cupful of whipped cream. Mix lightly with the vegetables, and garnish with whipped cream.

Doughnuts.—Take one cupful each of sugar, sweet milk, and finely mashed potatoes, three eggs, three teaspoonfuls of baking-powder, one-half teaspoonful of saleratus, one teaspoonful of salt sifted with three cupfuls of flour, and three tablespoonfuls of melted butter. Season with cinnamon or nutmeg. The potatoes should be beaten to a foamy mass, using a little milk to bring them to this consistency; then rub them into the flour with the butter, milk, and eggs. A little more flour will be necessary when rolling out. Fry in a liberal quantity of boiling lard, and dust while hot with powdered sugar.

Excellent Cookies.—Two cups sugar, 2 eggs, 1 cup buttermilk, 1 teaspoon soda stirred in the milk, 1 scant cup lard, a pinch of salt, and half of a grated nutmeg, flour enough to make as soft dough as can be handled. Roll, cut out, and bake in a hot oven. Cookies always require a hot oven.—Mrs. M. C. Wright, Route 1, Plevna, Kans.

A Handsome Supper Salad.—One cup Malaga grapes, 3 bananas, 3 oranges, 1 cup of English walnut kernels, 1 bunch of celery, 1 head of lettuce; mayonnaise dressing. The only tedious part of the operation is skinning the grapes; this done, set them aside in a cold place while you make ready the other ingredients. Peel the oranges, remove the white inner skin, separ-

ate the fruit into lobes, each of which cut in half, and remove the seeds. Peel and slice the bananas, cut each nut kernel in half, and cut the celery into half-inch pieces. Line a salad bowl with lettuce. Mix carefully together the grapes, nuts, oranges, bananas, and celery; heap them in the center of the bowl and pour the mayonnaise over them.—Mrs. Sarah A. Moore, Sterling, Kans.

Fruit Ice-Cream.—The very best fruit ice-cream is made by whipping cream and partially freezing it. Meanwhile mash the fruit with plenty of sugar and stir it into the cream, and complete the freezing process. When cream is whipped it goes further, besides making a lighter ice cream. The fruit does not require much freezing.

Nautilus Salad.—Two bunches of celery, 5 large apples, 1 large can of sliced pineapple, 1 pound Tokay grapes, 1 dozen bananas, 1 coffee cup of sugar, 1 pound ground nut-meats, a little salt. Split the grapes, take out the seeds, cut the fruit and celery in small, fine pieces; add bananas just before serving. Grind nut-meats in a meat-grinder; use pecans, English walnuts, almonds, and hickory nuts, ½ pint of latter. Mix all together; put lettuce leaf on plate; place on it a large spoonful of salad. Add whipped cream last thing on top of salad. If the cream does not whip well, add the white of an egg. Sweeten the cream a little before you whip it. Use 1 quart of cream. This will make 1 gallon of salad, and will serve thirty people.—N. W. Lyon.

The Young Folks

Young Women's Christian Association.

An Young Woman who is planning to come to Topeka, will find peculiar advantages at the rooms of the Young Women's Christian Association, 623 Jackson Street. Rest rooms, reading room and lunch room are at the disposal of all women at any time. A boarding house directory is kept at the rooms, and also an employment bureau, free of charge. On each Sunday afternoon, at 4:15 a gospel meeting is held to which all women are invited. The first week of October is the time set for the opening of the club work, and the classes in Bible Study in English, Parliamentary Law, Sewing, Water Color and Travel. The Gymnasium also opens then, with classes in Physical Training under a competent instructor. The printed announcements will be mailed on application to the General Secretary. A cordial invitation is extended to out-of-town women, especially to make use of the rooms.

Comfort.

Comfort one another,
For the way is often dreary
And the feet are often weary.
And the heart is very sad.
There is heavy burden-bearing,
When it seems that none are caring,
And we half forgot that ever we
were glad.

Comfort one another
With the handclasp close and tender,
With the sweetness love can render,
And the looks of friendly eyes.
Do not wait with grace unspoken,
While life's daily bread is broken—
Gentle speech is oft like manna from
the skies.

—Margaret E. Sangster, in "The World and His Wife."

Wonderful Instinct.

Observations of life, as it is led by beast and fowl in the remote haunts among the woods and on the lakes, are always of interest, for they disclose some of the private thoughts of natural instinct. An Englishman sportsman writes this experience with the ducks:

"Always on the lookout for ducks, I stole cautiously to the edge of the lake and observed a saw-bill duck, with a brood of nine young ones not a dozen yards from the shore. The old bird evidently suspected something dangerous, for she was gently drawing her young brood further from the shore, with a low, coaxing note. Making a slight noise as I advanced, the old bird instantly called all the little ones to her side, and swam with them as fast as the tiny things could possibly paddle towards the middle of the lake.

"The mother encouraged the little ones with low cries, and looked continually from side to side to see if they were all there and keeping close to her. So compactly did they swim that at a distance of thirty yards they looked like one object.

"I suddenly showed myself, running to the beach; not with the intention of shooting them, but rather to watch the manner in which the old bird would act towards her young.

"She rose with a wild cry of alarm; the little ducklings, perhaps not a week old, instantly scattered themselves over the surface of the water, some going on one side, some on another, but always keeping within a certain distance from the shore. The mother flew to and fro across the bay of the lake alighting about 50 yards from the shore, and calling her brood. She remained about ten minutes on



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Useful as a sausage cutter at butchering time—as a food cutter all the rest of the year.



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Street Station, who was on post nearby. Tenney then told the cop, through a passenger on the car who spoke German, that the boy had taken his wallet containing \$45. Hans burst into tears, indignantly denying any knowledge of the missing money, but nevertheless was haled before Magistrate Finelite in the Essex Market police court by the big policeman.

The more the magistrate questioned, the louder the boy howled. Finally the case was adjourned to allow the complainant to get witnesses. The boy was then taken to jail, crying and protesting his innocence. His mother was notified, but she could not scrape up enough ready coin to get Hans out. Instead of sleeping Hans cried all night long.

Prison Keeper Whalen and the matron did their best to comfort Hans, and finally a collection of nickels and coppers amounting to several dollars was taken up and given to him. But it did not check his tears, and he was still crying when brought before Magistrate Breen in the morning.

"What evidence have you against this poor lad?" asked the magistrate. "He looks honest and cries as if he were honest."

"I felt somebody going through my pockets and I think it was him," said Tenney through the interpreter, in a hesitating way.

"You didn't tell this boy to cry, did you?" asked Magistrate Breen of the lawyer appearing for the prisoner.

"No, your honor."

"In that case I think it an outrage to hold him a minute longer. This immigrant is a greenhorn and some professional sharper got him. The boy, I'm positive, is innocent," concluded the magistrate.

The prisoner was discharged. Hardly had he been informed of the fact than he made a dive for his mother and brother, who were seated among the spectators. He did not wait for the policeman to open the gate, but vaulted over the four-foot railing and hugged both at once.

"That boy wouldn't steal in a thousand years," commented Magistrate Breen, as he watched the greeting.—New York Sun.

A Word to the Boy Who Smokes Cigarettes.

A word to you, sonny—you little twelve- or thirteen-year-old boy who is smoking cigarettes on the sly. What do you want to be when you grow up—a stalwart, healthy, vigor-

ous, broad-shouldered man, or a little, puny, measly, no-count, weak-minded dude? If you want to be a man, strong like a man, with hair on your face, brains in your head, and muscles in your limbs, you just let those cigarettes alone. If you want to be a thing pitied by your folks, despised by the girls, held in contempt by the fellows, keep right on smoking.—Seneca (Mo.) Hustler.

The Little Ones

The Way of a Boy.

When mother sits beside my bed
At night, and strokes and smoothes my
head,
And kisses me, I think some way
How naughty I have been all day;
Or how I waded in the brook,
And of the cookies that I took,
And how I smashed a window light
A-rassling—me and Bobby White—
And tore my pants, and told a lie;
It almost makes me want to cry
When mother pats and kisses me;
I'm just as sorry as can be;
But I don't tell her so—no, sir,
She knows it all; you can't fool her.
—Mabel C. Watson.

A Brave Little Boy.

It was a busy time on the farm, for extra hands were at work at the harvest. There had been three or four days spent in the oat-field, and the little boys were tired even of the rides on the hay-cart. That evening a neighbor had called in, leaving a note for mother, asking her to allow Don and Dickie to ride to a neighbor's next day, to a chum's birthday party. What joy there was when both father and mother said "Yes." Boots were polished, bridles oiled, and both little shaggy ponies went to feed in the fields that night, with many hard little plaited in their manes, and then in the morning what a fuss and running about, until the two little laddies rode out of the stockyard gates, clean, smiling, and bonny in the morning sunshine. Even busy father had stayed behind the men a little to see them off. "Listen, Don," he said, "you must be good and steady; no racing, mind. I give Dickie in your charge." And so they had gone away. Dinner time came, and the men, busy and hurrying, had come home to dinner. The day was still very still and hot, and yet with a feeling of a storm in the air. At last mother and Nora had finished washing up the huge pile of dirty dishes, from the men's dinner, and then taking down a garden hat, mother passed through a side door into the garden. Sudden gusts of wind were now coming up the valley, and she looked towards the long white road for some sign of her little boys returning. What was it that made her suddenly lift both hands to shade her eyes? Far away down the valley through which the little lads must come rose a great bank of smoke and glare of bush fire. Then she remembered that a large section, ready to burn, lay alongside the road, but her neighbor had promised to tell them before it was burned. "Nora!" "Nora!" she cried. "Ride, ride, for the men."

The girl rushed out hatless and with slippers on, but she, too, only needed to look where her mother looked to see the danger. She was on the back of an old farm horse and across the hill to the harvest field ere many moments had gone.

The little boys had started home at three o'clock, after a happy day and a good birthday dinner. They had gone several miles along the valley before they noticed the smoke, and even then they did not think of any danger. The road grew more and more smoky, and the air was full of ashes and tiny smuts. The little ponies sniffed the air restlessly, but still they rode on towards the mass of swaying smoke. Suddenly, as a gust of wind blew the hot air against Don's face, he realized the danger. Glancing behind, he saw that they could not go back. The road took a great loop there, and the fire was now behind them too.

"Dickie," he said, "we are in a hole, and we've just got to go for it; hang on to your saddle, old boy, and give me the reins."

They were now half-blinded when the wind brought the force of smoke against them, but bravely clasping Dickie's reins in one hand, and his own in another, Don set the ponies to a gallop. On, on, they went, along the smooth, white road, now with a great fear in both of their hearts.

"I can't manage, Don," Dickie shouted, or rather gasped, at length. "I can't stick on." Poor little Dickie, it had been harder to sit without his reins to steady him, and he was sick and giddy with the smoke and roar of

The Food Value of a Soda Cracker

You have heard that some foods furnish fat, other foods make muscle, and still others are tissue building and heat forming.

You know that most foods have one or more of these elements, but do you know that no food contains them all in such properly balanced proportions as a good soda cracker?

The United States Government report shows that soda crackers contain less water, are richer in the muscle and fat elements, and have a much higher per cent of the tissue building and heat forming properties than any article of food made from flour.

That is why **Uneeda Biscuit** should form an important part of every meal. They represent the superlative of the soda cracker, all their goodness and nourishment being brought from the oven to you in a package that is proof against air, moisture and dust—the price being too small to mention.

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the great fire now so near to them. A few more paces and his little body was leaning down upon the pony's neck. Don stopped the ponies, and slipping on to Dickie's, behind his brother, tried to steady the swaying lad and keep the pony going. It was no use, he thought at last. Oh, if father and mother could only know he had done his best. He, too, swayed on the pony, and the reins hung more limply from his hands. Oh! the pain, the pain in his eyes. He seemed to be dreaming and half-asleep, when suddenly, the pony, startled by something he had not seen, neighed piteously.

Out of the smoke and heat they came! Only just in time. Father and the men, not one or two, but six or seven of them, on their great strong horses. Were they in time? they wondered, as they lifted the almost unconscious boys before them and galloped for their lives.

It was only a few more moments, and they tenderly laid the little boys down in their own little room, for the loving care that only mother could give. It was weeks before little Dickie left his bed, though Don, white and with scorched hair and eyebrows, was able to be about in a few days. A quieter, more gentle Don he seemed, though who could have been more proud than he, when his father had stooped over him, telling him how proud he was of them both.—*Farmer's Union Journal*.

Club Department

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Our Club Roll.

Excelsior Club, Potwin, Kansas, (1902).
Women's Literary Club, Osborne, Osborne County, (1902).
Women's Club, Logan, Phillips County (1902).
Domestic Science Club, Osage, Osage County (1888).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
Chalitzo Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
Literateur Club, Ford, Ford County (1902).

Star Valley Women's Club, Iola, Allen County (1902).

West Side Forestry Club, Topeka, Shawnee County (1902).
Fortnight Club, Grant Township, Reno County (1903).

Progressive Society, Rosalia, Butler County (1903).
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).

The Lady Farmer's Institute, Marysville, Marion County (1902).

Women's Country Club, Anthony, Harper County.

Taka Embroidery Club, Madison, Greenwood County (1902).

Prentis Reading Club, Cawker City, Mitchell County (1902).

Cosmos Club, Russell, Kansas.

The Sunflower Club, Perry, Jefferson County (1903).

Chaldean Club, Sterling, Rice County (1904).

Jewell Reading Club, Osage County.

The Mutual Helpers, Madison, Kansas (1906).

West Side Study Club, Delphos (1906).

Domestic Science Club, Berryton, Shawnee County (1906).

Mutual Improvement Club, Vermillion, Marshall County (1903).

Centralia Reading Circle, Nemaha County.

(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

Another Club Heard From.

"Centralia Reading Circle" is very glad for the opportunity to enter the club column of THE KANSAS FARMER for a chat with her sister clubs.

Centralia Reading Circle at the present time numbers eleven members.

Two are from the country, but we are doing good work and enjoy it. As we are all housekeepers, we find the club meeting an inspiration for higher and better things, and it was decided long ago among ourselves that club women make the best mothers.

Our work for this year is English literature and English history, as outlined in the Bay View Course along with the Bay View Magazine. In addition to this we have a section from the travelling library, selected with a view to aid us in our study.

We meet every Tuesday and each member answers the roll-call by giving a quotation from the author or poet under consideration or a current event.

Enough has been said for once for "Centralia Reading Circle" but now don't you really think it is an ideal club?

Explanation.

The Club Department of THE KANSAS FARMER is published in the interest of all rural clubs or clubs in small towns, whether federated or not, and is not in any way connected with the federation. There are only a few federated clubs on the roll. The object of this department is to assist all such

clubs in their work and to encourage the others to form clubs, because of the great need of just such a factor in rural districts where the lives of so many are hidden within the four walls of the home.

Miscellaneous Program.

Roll-Call—Current events.

I. Cheerfulness in the home.

II. As we grow old.

III. Reading.

I. This subject is not new, but it never grows old. It is so necessary to the happiness of the family. It is like sunshine in the home, chasing away clouds of discontent, discouragement, and ill temper, and like sunshine is a promoter of health.

II. We all wish to grow old beautifully, but to do so one should begin early, as thoughts and habits make their impress on face and character, and as the years creep upon us they, as it were, become solidified and unchangeable.

The answer to roll-call by a bit of interesting news forms one of the most instructive and interesting features of a club meeting.

The club column welcomes to its roll the Centralia Reading Circle, and would like to know more about it—how old it is and of what advantage it is to the members.

The paper under the title of "Liberal Living on Narrow Means" was read before the First District Federation, which met in Topeka a few weeks ago. It needs no comment for it speaks for itself. No one can read it and not be profited by it.

Cures Lung Diseases—All Diseases of a Bronchial Nature Yield to Toxico-Asthma and Catarrh Cured Permanently.

The news that permanent relief from catarrh, asthma, and bronchitis can be obtained by the Vienna Toxico treatment, has deluged The Toxico Laboratory, 1269 Broadway, New York, with requests for treatment and they are still sending a free trial of Toxico to every one writing for it.

It is claimed that this remedy has effected thousands of cures both in America and continental Europe, its success being due to the fact that it acts directly upon the mucous membranes. Dr. Zelner, the eminent bacteriologist, is in charge of the medical correspondence.

The Grange

"For the good of our Order
our Country and Mankind."
Conducted by Geo. Black, Olathe, Secretary
Kansas State Grange, to whom all correspondence
for this department should be addressed.
News from Kansas Granges is especially solicited.

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Stewart..... R. C. Post, Spring Hill
Assistant Stewart..... Frank Wiswell, Ochiltree
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Grange Influence.

Your committee on resolutions in submitting this, their final report, come with words of appreciation for all who have labored so earnestly in their respective stations in the many States of this Union to keep the Order of Patrons of Husbandry busy at work improving their conditions, by educating the American farmer, as an intelligent tiller of the soil, to the necessity of a more active citizenship.

In these days of a higher civilization and a larger degree of prosperity when so many are demanding special rights for themselves to the injury of the many we, as an order "without party affiliations," stand by the administration in its earnest and consistent demands that every American citizen shall have, if he wills, an opportunity to work for reasonable compensation; that no combine, corporate or organized company, shall have full power to crush the more humble individual, but that every man shall have a "square deal;" therefore,

Resolved, That we, the National Grange of the Patrons of Husbandry, do most heartily support the people's President, Theodore Roosevelt, in his demand that those in places of trust and responsibility, whether employed by the Government, corporation, company, or individual, shall be held accountable both to the laws of his country and the people they serve; therefore,

Resolved, That we, as American citizens, believe it is every man's privilege to work as many hours as he wills for pay; that energy, thrift, and activity are entitled to encouragement and should command rightful compensation for services rendered.—Proceedings of Thirty-ninth Session National Grange.

The Executive Committee of the National Grange.

Conceive a strong organization, nation wide, the dominating power in some sections, weak in others, yet the recognized spokesman for millions of farmers, enrolling a membership of more than a million souls, and you will realize the duty, opportunity, and responsibility resting on the executive committee of the National Grange. Probably no organization is entrusted with such power or has used it more wisely. Quiet, thorough, settling its differences of opinion within instead of without, without haste, without rest, pressing forward on a definite program for the uplift of the farmer and the betterment of mankind, the Grange has won a place as one of the great factors in history. Its leaders have been shrewd men of judgment and determination, who, while working for the farmer first, have commanded the respect of the world for their broad humanitarianism. In the irrepressible conflict which is world wide, the Grange will play an important part. Its executive committee are men strong in their own States, and experienced leaders.

Hon. E. B. Norris, for many years chairman of the executive committee, master of New York State Grange, whose membership he has brought up to above 82,000, is a strong man in a responsible position.

Governor C. J. Bell, of Vermont, whose iron will and unflinching courage have brought victory in many a hard fight, Governor of his State, master of Vermont State Grange, experi-

enced, careful, shrewd, is a leader to be trusted.

Hon. F. A. Derthick, master of Ohio State Grange, father of pure-food legislation in Ohio, who wrote that part of the Ohio law which has been incorporated into the statutes of nearly every State, is serving his second term as member of the committee. His gallant fights for pure foodstuffs and more equitable distribution of the burdens of taxation are fresh in the minds of the people. The farmers are urging his candidacy for Governor.

Ex-governor N. J. Bachelder, for many years master of New Hampshire State Grange, by virtue of his office as master of the National Grange, is ex-officio member of the executive committee. Few men are better known. He has spoken in nearly every State in the Union. Under his leadership the Grange is making rapid strides in membership and solidarity of effort.

These are the men who have the interests of the Grange in charge. Strong at home and abroad, and experienced, they will bring yet more good to the farmers. It must be remembered that the things for which the people are to-day clamoring have been discussed in every grange hall in the land and worked for by the Grange. Among them are pure food, railway-rate regulations, the Isthmian Canal, regulation of monopolies, extension of markets for farm produce, National and State aid to highways, more equitable distribution of taxation burdens, federal, State, and county salary laws, parcels-post, telephone, and telegraph in the mail service, election of Senators by direct vote, and postal savings banks. The Grange is stronger than ever before; its leaders are trustworthy. In the great struggle now going on, the Grange will play a conspicuous and honorable part.—Farm and Fireside.

The Inhabitants.

Many a schoolmaster discovers to his cost the need of the utmost precision in language in speaking to his pupils and questioning them day by day.

The lesson in geography in a certain class dealt with the islands off the southeast of Asia, and reference was being made to the Philippines and the adjacent groups.

"What are the inhabitants of the Sulu archipelago called?" asked the master.

"There is no specific name for them," answered one of the sharpest of the boys. "They may, however, be classified under the one general name of fish. Among these fish, sharks, flying fish, and others of various kinds may be mentioned. Then there are tortoises or turtles of different sorts, though these can not really be called fish, but—"

"What on earth are you talking about?" exclaimed the master, as soon as he could recover from the astonishment created by the boy's reply. "I am asking you about the inhabitants of the Sulu Islands, and you ought to know that these are Malays by race and Mohammedans by religion."

"I beg your pardon, sir," retorted the lad. "You asked me about the inhabitants of the Sulu archipelago, and I believe I am not mistaken in thinking that an archipelago is merely a sea or body of water interspersed with islands."

The master gasped, and has since had a dread of that boy.

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A. M. HARGISS, Pres., Grand Island, Neb.

Dairy Interests

Effects of Salicylic Acid Upon Health.

The following is from the "General Conclusions" of Dr. H. W. Wiley in summing up the results of his experiments to determine the effects of salicylic acid upon the human system:

"There has been a general concensus of opinion among scientific men, including the medical profession, that salicylic acid and its compounds are very harmful substances, and the prejudice against this particular form of preservative is perhaps greater than against any other material used for preserving foods. This is due not only to the belief in the injurious character of salicylic acid, but perhaps is especially due to the fact that it has in the past been so generally used as an antiseptic. That salicylic acid should be singled out especially for condemnation among preservatives does not seem to be justified by the data which are presented and discussed in this bulletin. That it is a harmful substance, however, seems to be well established by the data taken as a whole, but it appears to be a harmful substance of less virulence than has been generally supposed. There is no doubt of the fact that salicylic acid is a drug which is often indicated in diseases well established, and also perhaps in certain conditions which, while verging on disease, might still be regarded as a state of health. But the administration of salicylic acid as a medicine should be controlled exclusively by the medical profession, and, while it is a remedy well established in the Pharmacopeia and especially prized for its effect upon rheumatism and gout, it does not seem that there should be any warrant in this fact for its promiscuous use in foods, even if it were harmless.

"The data show very clearly that salicylic acid and salicylates appear to exert an existing influence upon the activities which take place in the alimentary canal, stimulating the organs to greater effort, and this stimulation leads at first to increased digestion and absorption of the foods which are introduced into the stomach. In the light of the data which are exhibited, salicylic acid may be said to increase the solubility and absorption of the food in the alimentary canal, so that larger parts of the nutrients taken into the stomach actually enter the circulation.

"The data which show the effects just noted also indicate that the general effect upon the system is depressing, in that the tissues are broken down more rapidly than they are built up, and thus the normal metabolic

processes are interfered with in a harmful way. The administration of the salicylic acid is attended by a gradual decrease in the weight of the subjects, although the quantity of food-elements administered during the preservative and after periods is slightly increased, which fact, together with a greater degree of absorption of the food-elements, should have resulted in a slight increase in weight. This increase in weight, however, does not occur, and the disturbing influences of the salicylic acid upon metabolism, although not very great, are specifically demonstrated.

"The final conclusion in this matter, therefore, is that the unenviable position which salicylic acid has heretofore held among preservatives, in being regarded as the most injurious of all, is perhaps to a certain extent undeserved. Like other ordinary preservatives, it is not one which can be classed as a poison in the usual sense of the word. When used as a medicine in many cases of derangement of health, it is, like the other chemical preservatives, often highly beneficial when properly prescribed by a competent physician. It is, when used in the food, at first an apparent stimulant, increasing the solubility and absorption of the common food-elements from the alimentary canal. It soon, however, loses its stimulating properties and becomes a depressant, tending to break down the tissues of the body more rapidly than they are built up. It disturbs the metabolic processes, in most cases producing conditions which are not normal and which apparently are not beneficial. It has a tendency to diminish the weight of the body and to produce a feeling of discomfort and malaise which, while not marked, is distinctively indicative of injury. In some cases these symptoms of malaise approach illness, and while not always diagnostic are sufficiently common to unmistakably point to the salicylic acid as their origin. It places upon the excretory organs, especially the kidneys, an additional burden which they are not able to bear and which can not possibly result in any good, but on the contrary must necessarily, by thus increasing the burden of the kidneys, finally result in injury, though perhaps with the use of very small quantities of the preservative these organs would continue to perform their functions for many years before finally breaking down.

"This work is offered as an unbiased study of all the data recorded, both of those which appear to be in favor of the use of salicylic acid and those which appear to be against its use, and leads to the inevitable conclusion that salicylic acid is a substance which, when added to foods even in small quantities, exerts a depressing and harmful influence upon the digestion and health and the general metabolic activities of the body. Further, there appears to be no necessity for its use, as food can be preserved in unobjectionable ways without its aid. Its indiscriminate use would tend to carelessness in the quantities employed, thus increasing the dangers to which the consumer is subjected. Also, its use in the preservation of foods tends to induce carelessness and indifference on the part of the manufacturer, as when a chemical antiseptic is employed many of the processes necessary to the proper selection, cleaning, and preservation of foods may be omitted. The addition of salicylic acid and salicylates to foods is therefore a process which is reprehensible in every respect and leads to injury to the consumer, which, though in many cases not easily measured, must finally be productive of great harm."

What Some Cows Have Done.

The Holstein-Friesian Association furnishes the following summary of performance:

Unless otherwise mentioned, these records are for a period of seven consecutive days. They are made under the careful supervision of State agricultural colleges and experiment stations, and their accuracy is vouched for by them; no private records are reported by the Holstein-Friesian Association.

During the period from August 1 to October 31, 1906, records for seventy-three cows have been accepted, five of which were begun more than eight months after freshening. All made seven-day, and one made a fourteen-day record. The averages by ages were as follows:

Twenty full aged cows averages: age, 6 years, 10 months, 16 days; days from calving, 28; milk, 417.4 pounds; per cent fat, 3.53; fat, 14.730 pounds. Six 4-year-olds averaged: age, 4 years, 4 months, 13 days; days from calving,

THE HARVEST THAT NEVER ENDS.

Through fall, winter, spring, and summer the harvesting of the "milk crop" continues year in and year out. The ever faithful cow never fails to add a goodly sum to each year's revenue from the farm. Yet how little many do towards making the most of her product. Hundreds of thousands of dollars are lost yearly by cow-owners through failure to employ a centrifugal cream separator and thereby secure every particle of cream from the cow's milk. Over 750,000 DE LAVAL users are daily proving that the increased gain in the quantity and quality of the "milk crop" is from \$10 to \$15 per cow each year when the

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is used, to saying nothing of the time and labor saved. Isn't it worth your while to investigate such a saving? If you own three or more cows the practise of economy and good business methods in the care of their products demands a DE LAVAL machine. Remember that one will last from fifteen to twenty-five years, and that it can be purchased upon such liberal terms that it will earn its cost and more while you are paying for it. Illustrated catalogue and full particulars sent free upon request. Write to-day.

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Nannette, with 13.725 pounds fat, is the best among the older class of 2-year-olds; while the younger class, with Pontiac Calamity, 13.311 pounds fat from 296.1 pounds milk; Pontiac Algaia, 12.741 pounds fat from 309.9 pounds milk; and Pontiac Minerva, 12.012 pounds fat from 314 pounds milk, shows up finely.

The records begun more than eight months after calving make the usual fine showing; and that made by Copia Hengerveld 3d is noteworthy. This heifer, calving at 2 years, 5 months, 9 days, made a record of 14.642 pounds butter-fat from 391.6 pounds milk; then, 271 days from calving, she has made a record of 10.2 pounds fat from 284.9 pounds milk. Such records show what Holstein-Friesian cows and heifers can do, and explain why the breed is so popular among farmer-dairymen, whether milk-shippers, or butter- or cheese-makers.

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Wide awake farmers want the cream separator that skims the cleanest. It means more profit—better living. That separator is the Sharples Dairy Tubular—the separator that's different.

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Prof. J. L. Thomas, instructor in dairying at the agricultural college of one of the greatest states in the Union, says: "I have just completed a test of your separator. The skimming is the closest I have ever seen—just a trace of fat. I believe the loss to be no greater than one thousandth of one percent."

That is one reason why you should insist upon having the Tubular. Tubulars are different, in every way, from other separators, and every difference is to your advantage. Write for catalog S-16 and valuable free book, "Business Dairying."

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Register is now ready for distribution, and will be sent, without special request and free of all charge, to all members of the association who have made application for the herd-book, through the return postals sent out to all members by Secretary Houghton. Members of the association should bear in mind that the herd-books of the association are only sent out upon request; so if any who wish it fail to get the Advanced Register in due time, it will be simply because they have neglected to reply to Secretary Houghton's card.

The Cooperative Cow-Making Association.

R. M. WASHBURN, MISSOURI STATE DAIRY COMMISSIONER.

"I am going into the dairy business, and I want to start with the grades of some of the dairy-breeds; where can I pick up twenty or twenty-five Holstein or Jersey grades?"

This question is frequently coming to me, and I am always sorry, when it comes, that there are not a few places in Missouri where the dairy-cow is bred numerously enough so that a car-load of grades could be picked up in a neighborhood.

In this State we have several cooperative creameries. They are doing well as creameries, so well that I am firmly convinced that no centralized creamery can ever injure them. Upon inquiry at these places I find that the cows are greatly mixed, one farmer breeding Holsteins, another breeding Jerseys, and yet another Guernseys or Brown Swiss, and many working with the Shorthorn. Although there are very profitable animals in all of these breeds, there would be yet more profit if an entire community would engage in the breeding of a single kind of cow, for then when a man asked where he could pick up twenty or thirty Jersey grades I could point to this town. If he wanted Holstein cows I could point to that town. The individual cows in each of these communities would not be any better because of there being many, but the prices the owners would be able to get for them would be materially increased by the fact that a sufficient number to start a herd could be picked up at one place.

In several communities I find local farmers' organizations, even where there is no cooperative creamery. Would it not be wise, wherever there is an organization which will hold the farmers together in their buying and selling interests, to start this breeding-of-one-breed business? If this were the case, one sire could be used throughout his natural life in one community, by exchanging him with the neighbors.

There are two communities in the State now taking hold of this matter; one is breeding Jerseys and the other Guernseys, and I will do all I can to encourage them and to find a profitable market for their produce.

Feeding of Calves.

The feeding of calves during the fall and winter often presents many difficulties, and the following article by Prof. Hugh Van Pelt, of the Iowa Agricultural College, in the Jersey Bulletin, will interest a good many people in the near future:

"For the first two weeks of the calf's life it is fed five pounds of whole milk direct from the cow twice a day. At the end of this time a small amount of skim-milk is substituted for a little portion of new milk, until at the end of the next ten days or two weeks the calf is drinking all skim-milk and about twelve pounds of it per day. About this time the youngster is beginning to nibble at a small bunch of clover hay that has been placed in a small rack at the corner of his stall to tempt him, and we surmise that he would eat a bit of grain if he had a chance, so we at once begin to provide the grain. As soon as the milk is run through the separator in the morning, the foam is roughly taken off and the milk measured out to each calf. To this is added from a teaspoonful to a tablespoonful of blood flour, which readily goes into solution and is drank along with the milk. Now I consider this blood flour one of the greatest feeds in the world for calves for two reasons: First, because it is almost entirely made up of protein and bone phosphate, the two constituents of a food that go to build up the bone and muscle of the animal, and this is what is wanted in feeding calves; second, when blood flour is used regularly, there is never a case of scours.

"Since last November there have been about forty calves under my care, and I have not in that time seen a case of scours, and I could not have asked that the calves grow better or look

finer at this time. Immediately after feeding the milk, grain is placed before the calf in a small box that is always kept sweet and clean. By feeding the grain at this time, the calf soon learns to eat instead of sucking others ears, which practise is very detrimental to proper development of the youngster.

"The grain-ration is made up of corn (cracked), bran, and whole oats in equal proportions by weight. Oil-meal is fine to add in limited amounts when not too expensive, but this is not necessary when blood flour is fed, so we have not used it this year.

"This same plan of feeding is followed twice each day, and good clover hay is kept before the calf at all times that he may eat as he chooses. As the calf grows, of course, the grain and skim-milk are increased so as to stimulate the best growth, and as the judgment of the feeder directs. When grass comes, of course, the babies are turned out in the daytime in their grass paddocks and kept up at night until the dies get bad; then they have access to a well-ventilated and darkened stall in the day and run through the pasture at night.

Ensilage for Dairy-Cows.

A practical and successful dairyman gives his plan of feeding his cows through the Jersey Bulletin, and among other things he says:

"We make ensilage our main food. It is unnecessary to enlarge upon the value of ensilage, for every dairyman in the corn belt certainly knows the value of this great feed. We feed from 30 to 40 pounds of ensilage per day in proportion to the cow. It is our intention for our cows to have all they want, and that it be in the best condition. In the winter the ensilage is not removed from the silo until feeding time and is fed steaming hot.

"The ensilage ration is balanced with bran and clover hay. The bran is fed in proportion to the period of lactation of the cow, and as much as she will consume at a profit. We feed our ensilage and bran the first thing in the morning; then do our milking and separating; then feed as much clover hay as the cows will clean up before noon. The same method is followed in the evening, feeding hay the last thing at night.

"We do not depend on grass alone more than sixty or seventy-five days in the year, from about May 10 to July 15 to 20. Then if we have the ensilage left over from winter, we feed about 20 to 25 pounds per day. If we have no ensilage, we plant a small plot of sweet corn early in the spring and begin feeding as soon as it is up, cutting from the field and hauling to the pasture each day. This is a more expensive way of feeding than the ensilage, but it is far better than to let the cows go hungry, for a hungry cow won't give milk. Our cows must have all they want to eat three hundred and sixty-five days each year."

The Cow Pays Cash.

Dairying is a cash business. The cow pays for her board every day if she is the right kind, and in this connection the wise dairyman is particular to note whether the cows do pay for their board or not, as he is not anxious to run a charitable institution.

Milk, butter, and cheese are always cash products, and the dairyman is not obliged to wait six months or longer for returns from his efforts. Consequently, he runs no bills of any kind.

He sells for cash and buys for cash and gets the benefits of all discounts.

He always has money, and many dairymen pay their hired men every Saturday night, the same as manufacturers do.

Dairying is not a good business, however, for the man who likes to be away from home part of the time and who entrusts the management of his business in part to others.

Dairying by proxy seldom proves satisfactory or remunerative, and men with many irons in the fire had better cut out dairying; they will do far better in some other line of live-stock farming that does not require the constant watchfulness and personal supervision demanded by the cow and her produce.

Then, too, the by-product from the dairy has more value than that from other industries of the farm, and especially when butter is the only commodity sold and the skim-milk and butter-milk are fed on the farm.

There is no feeding value or fertility in butter worth considering; it is all in the skim-milk, and this when rightly used brings good returns in many ways.

There is no business of the farm that pays as well as dairying when right methods are in vogue in every detail

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Mission style dining cars, stateroom and drawing-room sleeping cars, and new unique buffet-observation cars—also finished in Mission style.

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of the business, and when the proprietor is wide-awake and anxious to improve and take advantage of every condition that promises improvement in cows, feed and feeding, care of animals, and marketing the products.

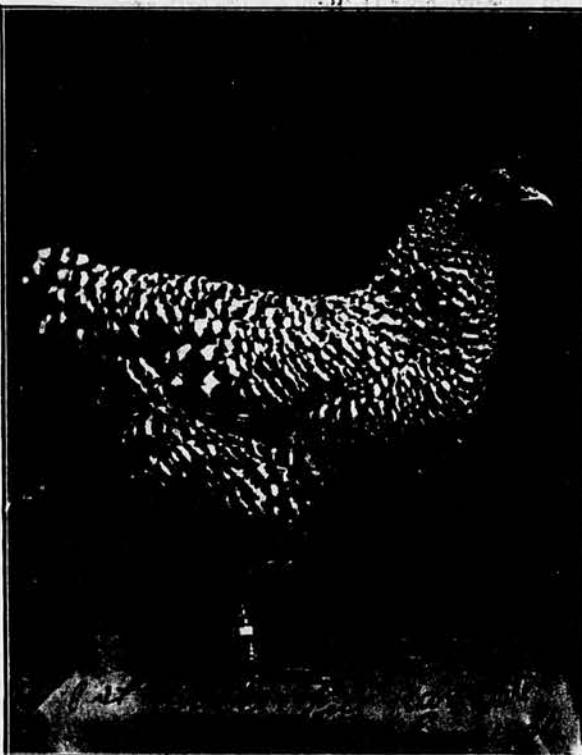
If a dairyman is to know what each cow is producing, he must either churn the cream separately or test it, and the test is far the easier and much more accurate; and what farmer can afford to keep cows and not know what each one is producing?

If he does not know their value for the dairy, from what shall he raise calves? Shall he guess at it?

Then the poorest cow will perhaps have an equal chance to live and eat up the profit made by a good cow and also perpetuate her kind.—Live Stock Inspector.

Homesick Cows.

When a cow is moved from her old home to a new one she is as homesick as a human being would be under like circumstances. Any man of observation knows this; every woman of sentiment feels it. But very little, if anything, is done by her new masculine owner to alleviate her state of unhappiness.



The First-Prize Pullet at the Kansas State Show in 1906, Exhibited by A. H. Miller, of Bern, Kans.

This is without doubt one of the best specimens in the Barred Rock class to be found in the West. Her winnings have been against all comers, and her progeny shows the true breeding of this wonderful variety. Mr. Miller has one of the finest flocks ever raised, and is ready to supply the trade in gilt-edge breeding and exhibition specimens. See his ad on page 1223.

piness. She is put into a strange barn, or into a new field or yard and left there to accustom herself as best she can to the new surroundings. Horses become attached, through their affections to people. Cows become more seriously attached to places than to people. If, then, the old home must be given up, everything possible should be done to make the cow feel at home in the new place. If a cow can go to her new home with her calf by her side, she will not so much mind the change. If, at the old home, she has not been well cared for, well fed, well housed, and at the new home she is given the best of care in all ways, she will not long mourn for the old, but will take kindly to the new. If she is petted, talked to, gently stroked, and so handled all around that she gains a quick confidence in those who handle her, she will soon be doing her best in producing milk, and her shyness and distrust will give way to quiet and content. It is a man's duty to every dumb creature to so handle that creature that it shall not suffer long with any degree of homesickness. It is more than a mere duty to his pocketbook. It is a duty he owes to his Creator, who is also the Creator of all things. But if he can not, or will not see other than the pocketbook side of the question, let him learn soon to know that the sooner the cow begins to feel at home and to forget about the old home, the sooner will he be in bringing his new purchase to a pay standard.—Nellie Haws, in Epitomist.

Cancerol, a Safe and Sure Treatment for Cancer.

No knife, no burning plasters or painful injections. Cancerol has been successfully used where all other methods failed. Investigate for yourself—costs but a trifle. Write to-day for free book. Address Dr. L. T. Leach, Indianapolis, Ind.

Peace with God is not a matter of patching up a compromise with the devil

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Why Not Raise More Turkeys?

As Thanksgiving approaches, one's thoughts naturally turn to turkey, and when he goes to the butcher shop and sees the scarcity and high price of these birds, he inevitably inquires why do not more farmers raise turkeys and help supply the great and growing demand for them. Turkeys last year about Thanksgiving time in Topeka were selling for 20 cents per pound, and the necessary birds had to be shipped in from other States than Kansas. This ought not to be so, for with our immense prairies we should raise turkeys by the thousands. After the first few weeks of their lives, turkeys are very hardy and healthy. If you have alfalfa-fields, you can let them out of their pens in the morning and they will range all day, picking up bugs, grasshoppers, and seeds. They need only a little grain at night to

BIG PAY FOR FARMERS' NAMES

The publishers of THE FARM MAGAZINE want the names and addresses of farmers in your vicinity. They want to interest them in their splendid, big farm journal, which well-known farmers say is one of the very best farm papers. The subscription price is 50c a year, but by sending The Farm Magazine Co., the names of ONLY FIVE FARMERS and 10c, our readers can secure this interesting magazine one full year, together with a handsome, large, 10x14 photograph in colors of President Roosevelt and family, by the celebrated Washington artist, Cleindens. Handsomest picture of the Roosevelts made. Just out. THE FARM MAGAZINE CO., FLOOR T WORLD-HERALD BLDG. OMAHA, NEB.

WALNUT GROVE FARM ...FOR SALE...

Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Collies, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 800-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4,000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$20,000 cash.

M. D. NUTTING, Emporia, Kans.

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Destroy the Gophers In Your Alfalfa Fields by Using Saunders' Gopher Exterminator

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

Flint Saunders, Lincoln, Kansas

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After receiving and using 5 gal., if not satisfactory, return the balance, with bill of lading, and I will refund full price paid for said oil.

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ANGUS—One good yearling bull.
HOGS—A few of the best from 200 spring pigs—DUROC-JERSEYS, PO-LAND-CHINAS, BERKSHIRES, TAMWORTHS, and YORKSHIRES. Only the tops will be sent out on order.
Department of Animal Husbandry, Agricultural College, Manhattan, Kansas.

When Writing Our Advertisers Please Mention This Paper

PLYMOUTH ROCKS.

FOR SALE—Buff Rock cockerels; good scoring birds \$1 and \$2 each. Mrs. John Bell, Ackerman, Kans.

WHITE ROCKS and WHITE WYANDOTTES—Young and old breeders for sale at attractive prices. W. L. Bates, Topeka, Kans.

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

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

SPECIAL SALE ON BARRED PLYMOUTH ROCKS.

I will sell 60 yearling hens to make room, at \$1.00 each. These hens are barred to the skin. All my last season's pen breeders, the kind that produce exhibition cockerels. Right here is a chance to get some No. 1 stock at a low price. Let me mate up a trio or a pen that will start you right. I will also sell 10 cocks including the 2d and 5th prize cockerels at the Kansas State show of 1906. Description, price and photographs of any winners sent free. I will also sell cockerels until December 1 at \$1.50 each, sired by my first prize males. Write for prices on exhibition stock. Satisfaction guaranteed or money refunded. A. H. Miller, Bern, Kans.

White Plymouth Rocks EXCLUSIVELY.

Good for Eggs. Good to Eat and Good to look at—W. P. Rocks hold the record for egg-laying over every other variety of fowl; eight pullets averaging 280 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%, and as good as can be found anywhere. Eggs only \$2 per lb.; \$6 per doz., and I prepay expressage to any express office in the United States. Yards at residence adjoining Washburn College. Address THOMAS OWEN, Sta. B., Topeka, Kans.

LEGHORNS.

ROSE COMB WHITE LEGHORNS—A few cockerels 50 cents. Mrs. John Hill, Vinland, Kans.

THOROUGHBRED Rose Comb Leghorn cockerels, \$1 each; three for \$2.50. Samuel Mannen, Lincoln, Kans.

ROSE COMB BROWN LEGHORNS EGGS, 15 for \$1.50 for \$2.50, 100 for \$4. Mrs. John Holzhey, Benders, Kans.

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STANDARD-BRED SINGLE-COMB BUFF LEGHORNS—Headed by first prize pen Chicago show 1906 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 801 East First street, Newton, Kans.

FOR SALE—A limited number of S. C. White Leghorn cockerels, pure bred birds bred for laying and size. Price \$1, if sold at once. Mrs. F. R. Wolfe, Conway Springs, Kans., Route 2.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more 50 cents each. Fine white pure, thoroughbred birds. Also a few Barred Plymouth Rock, barred to the skin—fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 50 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Centerville, Illinois.

EGGS FOR SALE—S. C. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. turkeys, \$1.50 per 9. Embden geese, 20 each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kans.

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

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

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Of thirty-two of the leading varieties, being farm raised, no two on the same farm. To make room for winter quarters, Leghorns three for \$5, all other varieties in proportion. Address W. F. Holcomb, Mgr.

Nebraska Poultry Co., Clay Center, Neb.

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WHITE WYANDOTTES. If you need the highest quality for breeders or show birds at reasonable prices write me. Cockerels now ready for shipment. Illustrated catalogue free. Address G. A. Welbe, Box A, Beatrice, Neb.

THE MODEL POULTRY FARM

Yorkshire swine, Toulouse geese, Pekin Ducks and Wyandotte chickens. Winners of 38 prizes and 5 specials. Now is the time to order your breeding stock for next spring. A square deal guaranteed. Eggs in season.

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WHITE WYANDOTTES exclusively, some good breeders and some fine young stock for sale at prices that will suit you. J. H. Brown, Clay Center, Kans.

SILVER LACED WYANDOTTES—Thoroughbred cockerels \$2; pullets \$1.50. Jewett Bros., Dighton, Kans.

WYANDOTTES—Pure white. Young stock at \$1 each. L. E. Brown, Norton, Kans.

WHITE WYANDOTTE COCKERELS—Show birds or choice breeders at \$1.00 to \$5.00 each. S. W. Artz, Larned, Kans.

RHODE ISLAND REDS.

ROSE COMB RHODE ISLAND REDS—25 choice cockerels and a few pullets at reasonable prices if taken before cold weather. Mrs. Cora Churchill, Miltonville, Kans., Route 3, box 49.

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

MAMMOTH BRONZE TURKEYS.

MAMMOTH BRONZE TURKEYS FOR SALE—Inquire of B. B. King, Pfeifer, Kans.

Eggs for Hatching. M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kans.

food more appetizing and themselves more healthy.

It may be considered an extra item of expense to provide meat, bone, and green food for poultry, but there are hundreds of farmers who lose money on their flocks by feeding grain only. So long has it been customary to look upon grain as the natural food of all poultry that some consider their duty done when they have given a plentiful supply of it. The hen really prefers bulky food as a portion of her ration. No doubt many people, who have tried the experiment of keeping a hopper or trough filled with corn or wheat before the hens all the time, may have noticed that the hens will eat but a small portion of it. This is due to being surfeited with it. They have arrived at a stage when the grain is not desired. They cease to be productive. The difference in the production of eggs is then easily noticed. With the hoppers full of grain, there will be no eggs. Hence, if you would have plenty of eggs this winter, and they are going to bring a good price, see that the hens have a little meat, ground bones, and green food. Change the food entirely whenever there is a cessation of the egg-supply, leaving the grain out of the ration, and the hens will respond to the change and make a large difference in the number of eggs that they supply.

The best money-maker on the farm is the hen. She turns grass into greenbacks, grain into gold, and gravel into

ka State Exhibition has always been regarded as one of the best in all of the West for breeders of Kansas, Iowa, South Dakota, Missouri, and Nebraska, and the keen competition found there sets the seal of approval on the winning birds. For a selling show, it has no equal in the West. More good birds change hands there than in any other Western exhibition.

Plan to send your birds to the Madison Square of the West the third week in January, 1907. They will be well cared for, and if they have the quality will win. The superintendent of the 1905 and 1906 shows has been reengaged, owing to the good work he has done.

Luther P. Ludden is secretary and will be glad to furnish premium lists and further information if addressed at Lincoln. A. D. Burhans, Lincoln, has again been selected as press-agent, and any business coming under his care will be well treated.

Poultry Special.

R. M. WASHBURN, MISSOURI STATE DAIRY COMMISSIONER.

A chicken school on wheels, taken from town to town, is a new thing; in fact, so far as is known, this is the first time a special train has ever been run in the interest of the poultry industry of this or any other State. The Missouri Pacific Railroad, seeing the advantage of aiding the people along their lines to produce more and better crops, has, through the industrial department, been running a special train loaded with chickens, incubators, brooders, and poultry feeds. There were eighty-five chickens, representing twenty varieties. The fancy and spectacular breeds were not included. There are many freakish varieties, or strains, which would have attracted much attention, but the side show was omitted. All of the varieties shown have a place and are among the most useful breeds known.

An ordinary day coach was remodeled to form this poultry car. Although the poultry was excited during a considerable portion of each day for two weeks by the passing through the car of a thousand to fifteen hundred people daily, several of the varieties continued to lay eggs throughout the trip. Proper feed, in proper quantity, fed in a proper way, will account for this. Another car was filled with the feeds and supplies. Seven different makes of incubators and three brooders were on exhibition; from the walls and ceiling of this car hung many poultry journals, the standards of the day. The poultry was all bred by Missourians, some of them having just the week before won prizes at the Missouri State Fair at Sedalia.

The interest taken in this exhibit was quite refreshing, many spending half an hour to an hour studying varieties of chickens and feeds. In nearly every town the school children from the higher grades were brought to the car in charge of their teachers, took notes on everything they saw, and prizes will be given for the best and second best composition written on the subject. The children also attended the lectures and were interested. Many little girls and boys, six to ten years old, became enthusiastic, selected the breed that they thought prettiest, and instantly set about to procure specimens of them.

The poultry was under the charge of Henry Steinmesch, the expert breeder and judge. The principal poultry speaker for the trip was Mr. C. M. Lewelling, of Beaver City, Nebr. In many places the farmers desired talks on something besides poultry, and to supply this expected demand R. M. Washburn, State Dairy Commissioner, was along. He lectured on cow-improvement, stock-feeding, silo-building, and also gave demonstrated lectures in milk-testing and cheese-making.

This method of teaching is excellent. Hundreds of people became interested and began studying the business, who would not have paid any attention to a straight lecture. The Missouri Pacific Railroad is to be congratulated on having in its industrial department men who can think new thoughts and successfully carry them out.

Oil Cure for Cancer.

Dr. D. M. Bye's Combination Oil Cure is a recognized Cure for Cancer and Tumor. Beware of imitators. Write to-day to the Originator for his free books. Dr. D. M. Bye, 316 N. Illinois St., Indianapolis, Ind.

BRAHMAS.

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

Light Brahma Chickens—Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kas., Route 4

MISCELLANEOUS.

GREAT BARGAINS—In fine poultry. Fourteen of the best varieties. Send for circular and prices. T. J. Pugh, Fullerton, Neb.

CHOICE BREEDING STOCK—Barred Plymouth Rocks, White Plymouth Rocks, Buff Cochins, Partridge Cochins, Light Brahmams, Black Langshans, White Wyandottes and Brown Leghorns. Single birds, pairs, trios, and breeding pens. All inquiries promptly answered and orders promptly filled with choice stock. Circulars free. Write your wants. A. H. Duff, Larned, Kans.

AGENTS—to sell and advertise our Poultry Company; \$35 weekly; rig furnished. Franklin Manufacturing Company, Norwalk, Ohio.

BEE SUPPLIES

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

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"SURE HATCH" Incubators

will hatch chicks for you better and cheaper than hens. We ship prepaid, and take them back at our expense, if they don't. Guaranteed 5 years—will last a lifetime. More sold and used than any other incubator. Highest quality and lowest prices. Send for our new free catalog. Tells all about it.

SURE HATCH INCUBATOR CO.

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Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatcher made. GEO. H. STAHL, Quincy, Ill.

THE FAMOUS OLD TRUSTY

40, 60 or 90 days to prove claims for my famous incubator. Two years guarantee. Send for catalog and get acquainted. Book free, advice too. M. M. Johnson, the Incubator Man, Clay Center, Nebraska.

THE HELPFUL HEN BEES AND PIGEONS

Subscription 25 Cents a Year.

"OUT THERE IN KANSAS"

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

Harvey's Dog Farm

Clay Center, Neb.

Here you can get Scotch Collies by sires that are personally imported from Europe. Have sold over 200 puppies this year. Write us for prices.

Engraving Dept. of the Mail and Breeze (Topeka) makes our CUTS.

The Talbott Poultry Farm

Breeders of the best in the world. Strain of Buff, Brown and White Leghorns, Barred Rocks and White Wyandottes. My birds have won at Chicago, Galesburg, Moline, Illinois, Fremont, Hebron and State Poultry Show of Nebraska, and they will win for you. 300 old birds for sale at \$1.50 each; also 1,000 youngsters at \$1.00 and up.

W. R. TALBOTT, Prop.

Hebron, Nebr.

THE VETERINARIAN.

(Continued from page 1215.)

pounds of Quassia chips in three gallons of water, soaking them for forty-eight hours, then strain and use as an injection, treating two times daily. One-half gallon of the remedy should be used at a treatment.

In regard to the mare with poll evil and fistulous withers, I am sending you a press bulletin describing the treatment which I think will prove successful if followed closely.

Chronic Cough.—My 7-year-old bay mare has coughed since last spring. Can heaves be cured? J. M.

Sedgwick, Kans.

Answer.—For the horse that coughs you might try the following prescription: Ammonium chloride 8 ounces, digitalis 4 drams, nux vomica 2 ounces. Make into six powders and give one daily in ground feed.

It is quite impossible to cure heaves, but an animal can be greatly relieved by giving feed that is moist and giving very little hay. Whatever they do eat, have sprinkled. It is always advisable not to drive or work a horse that has heaves, very vigorously right after a hearty meal.

Mare's Jaw Swollen.—I have a brown, 4-year-old mare that has been running in pasture until a few days ago. She seems to have an enlargement of the jaw bone, about two inches back from where it forks under the chin. The enlargement is on both forks of bone but larger on the right one, and is quite hard. Do not know the cause but have noticed it for about two months. Please tell me what the trouble is and if possible give me a remedy. I have started to blister it.

Checotah, I. T.

C. J. L.

Answer.—I would advise you to have your animal's teeth examined to make sure that the teeth are not the cause of the enlargements on the lower jaw. However, it is not very common for both sides of the jaw to be affected at the same time. I think, a blister will be all right. Let me hear from you as to the results you have in treating this animal.

Lump on Colt.—I have a brown colt that has a puff on her right hind knee. It came on when about 3 months old and has been there for about two months. I have been using a liniment but it does not seem to do any good. It is soft and does not make her lame. Will you please tell me a remedy that will cure? L. L. V.

Alma, Neb.

Answer.—I would suggest that you use a fly blister on the lump on your animal, using a blister every three weeks, until you have given the lump three applications of the blister. Twenty-four hours after applying a blister wash off and grease. Be sure and tie the animal so that it can not reach the blistered part.

Enlargement on Mule's Jaw.—I have an 18-months-old black male mule that I put out to pasture this summer and when I brought him home this fall he had a bunch about the size of a turkey egg of irregular shape just inside of his jaw but not on the jaw. It is quite hard. He eats well and is doing well at present, but was rather thin when I first brought him home. The man who owns the pasture he was in said the place swelled and broke but did not think it was distemper as there was no other case in the pasture.

Beloit, Kans.

G. R. J.

Answer.—I would suggest your using a fly blister. Better use one every two or three weeks.

Ailing Shoats.—I have some ailing shoats that seem to be weak in the back. They tremble and jerk their hind legs up and down and then fall. Some say it is kidney worm and others say it is rheumatism. One got down and lay for three weeks. Got worse all the time and finally I had to kill it. Now two more are taking it the same way. I am feeding all the soaked corn they want and they run in a lot of about one acre. I put turpentine on their backs and in their water, also gave copperas and lime. They are full-blood Duroc-Jerseys, 7 months old, and will weigh from one hundred to one hundred and sixty pounds. Any advice you can give will be gladly received. Also please mail me a press bulletin on diseases of swine. W. C. W.

Langdon, Kans.

Answer.—You are feeding your pigs, I believe, altogether too much corn, laying on too much fat all of a sudden and your pigs are not able to carry this weight. We are mailing you a press bulletin on "Some Troubles of Swine," which I think will help you in remedying the trouble.

Affected Kidneys.—I have a coming 3-year-old horse that took sick October 28. His kidneys and bowels seem to be affected. He will stretch out his kind legs while standing, and at first

will roll about some. At times he seems to suffer a great deal. During the daytime he has been running on prairie, but I feed him cane and corn and prairie hay and keep him in the barn during the night. I gave him alum and soda water and applied turpentine over kidneys, which seemed to relieve him somewhat and also moved his bowels and kidneys once after application. Later on we gave him an injection and also gave him some medicine internally. This treatment seemed to help him some, but still the horse suffered to some extent during the remainder of the day. This morning we turned the horse out on clover and timothy to graze. He ate a little corn this morning and drank some water very slowly for the first time since sick. Please answer if you think this treatment is all right, and also what to give or apply. C. M.

Bronson, Kans.

Answer.—We are sending you an Agricultural Review on indigestion in horses. For the kidneys, if they do not operate, use spirits of nitrous ether in ounce doses until you have given three doses, three hours apart. Give each dose in a pint of water. If the kidneys act too freely, secure a bottle of Sanmetto and give $\frac{1}{2}$ ounce of the Sanmetto in 2 ounces of water every two hours until you have given three doses, then give a dose two times daily until relieved.

Supposed Corn-Stalk Disease.—It looks as if we were going to have a great deal of trouble with cattle this fall in the stalk-fields. Is there anything we can do for an animal after it is affected? L. L. L.

Waverly, Kans.

Answer.—I would suggest that you secure from your drug store a pint of Eucalyptolin and whenever any of the animals show any trouble from being in the stalk-fields, give each 2 ounces of Eucalyptolin in a pint of water every hour until you have given three doses, then give three doses every three hours. If you do not get the desired results, let me hear from you again.

Wounds from Dehorning Fall to Heal.—Two years ago I dehorned some yearling heifers and one of them has never healed on the left side. The other side is all right. The heifer is in good condition and has raised a calf the last summer. The affected part discharges a watery substance for about two weeks at a time then it will stop and almost heal for a week or two, and then it breaks again. Would like to know if she can be cured and what to use. H. S.

Soldier, Kans.

Answer.—I would advise that you freshen the wound at the place where your heifers were dehorned. Keep the wound clean and try and stimulate healing.

Blackleg.—Will you please send me a bulletin on blackleg, as I lost a heifer last week, with what I believe to be that disease. C. F. Y.

Henryetta, I. T.

Answer.—I would advise you to examine your animals that are at all stiff and see if there is a crackling place; if so, that would indicate blackleg. The animals at first get stiff and later become lame in one of the quarters. Upon examination of the animal it is found that the meat over the parts that are crackling is black and filled with blood. If you have any further trouble let me hear from you.

Sheats Out of Condition.—I have some fat Poland-China sheats, weighing about 150 pounds. Two of them have died that did not seem to be sick more than a day. They started to cough hard and then they almost choked. This was continued until they died. The blood came to their mouths when they died. Otherwise they were fat and healthy. I gave them coal-oil in their slop and fed them corn and water. They were on tame grass pasture this summer. A. N.

Osage City, Kans.

Answer.—We are sending you a press bulletin which contains a formula on hog-cholera written by the Government. I think you had better use this medicine on all of your hogs as I fear that you have swine plague started in your bunch of sheats.

Ring-bone and Spavin.

Since olden times the term "ring-bone" has been used to indicate an enlargement around the coronary joint. This enlargement is hard, being a growth of bone, and in many cases forms a complete ring, hence the name. A ring-bone has a tendency to continue growing, and in rare cases attains the size of a man's head.

Causes.—Any conditions which favor sprains, such as fast driving over hard or uneven roads, unequal paring of the hoof, thus causing the weight to be

Farmer's Account Book

and

Five Year Diary of Events**An Indispensable Book**

Providing for a record of exact information about every item of transaction or event on the farm for 5 years. It is divided into two divisions, Diary in one and accounts in the other. In the Diary there is space for five years. Here it shows you the occupation of the day; here are any special incidents that you wish to remember the date of.

The Account part is indexed (read indexes) handy arrangement we think.

Hired help. This is for your labor account; shows the name of the one hired, time worked, wages paid, how paid, etc.

Expense; shows all the outlay for such items as Groceries, Labor, Clothing, etc. You can tell when you paid your Insurance, Taxes, how much they were; in fact, this department will show to a penny what it costs you to run the farm and also what you get for every cent of it.

Live-stock account has a double ruling, sales and purchases for each kind of stock being side by side, and as this is to be for five years it makes an interesting comparison. Then over here you have a history of each deal that you make.

Grain and fruit are ruled and printed in the same way, also space for sales on butter and milk or cream, eggs or poultry, in fact there is space for everything raised on a farm and all you have to do is to make the figures. It certainly is an easy matter to have your affairs in shape if you have a system like this.

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unequally distributed in the joints, and severe labor in early life may cause ring-bone. In addition to these may be mentioned blows, bruises, or any injuries to tendons, ligaments, or joints. There is no doubt that colts inherit a predisposition to ring-bone.

Symptoms.—Just as soon as the covering of the bone is bruised, a liquid is poured out in the region of the injury. This inflammatory liquid hardens and forms the uneven growth known as a ring-bone. If the covering of the bone continues to be inflamed more growth is formed. Before the ring-bone has become chronic the disease passes unnoticed. If the abnormal growth of bone is between the bones of a joint or if it tends to injure ligaments or tendons when they are moved, a ring-bone is very painful. On the other hand, a ring-bone may be very large and not cause very much annoyance, from the fact that it may not interfere with the free movement of ligaments or tendons or encroach on the gliding surface of a joint. In addition to the growth that can be readily seen, a horse affected with ring-bone is very lame when first taken out of the barn, but after moving for a few hundred yards gradually "works out of the lameness," as horsemen call it, but when allowed to stand and become cool and is then moved again, the lameness reappears.

Treatment.—Preventive treatment consists in keeping horses' feet trimmed properly, not overworking colts while young, careful driving on hard and uneven roads, and avoiding all injuries that are liable to strain tendons, ligaments, and joints of the limbs.

Even after a ring-bone has developed it may be cured by proper treatment of the feet and applying a fly blister. The fly blister is prepared by mixing thoroughly one ounce of pulverized cantharides, one ounce of biniode of mercury, and eight ounces of lard. The hair is clipped over the ring-bone and the blister applied with considerable rubbing. The horse's head should be tied so as to avoid his biting the part blistered. A second application of the blister is to be used about a month after the first. If blistering fails to cure the ring-bone, point-firing may be resorted to. It is necessary to "fire" rather deeply to secure

good results, care being taken not to fire into a joint. After firing, a fly blister should be rubbed into the holes where the hot iron has been used.

When all these methods have failed and the animal is not worth keeping for a long and uncertain treatment, a skilled veterinarian should be employed to perform an operation for the removal of the nerves supplying the limb in the region of the ring-bone. After a horse has been operated on, great care should be taken of his feet, from the fact that there is no feeling in the foot operated on and serious results may come from stepping on nails, etc., and carrying them for many days before the driver would notice the foreign bodies.

Contagious Abortion in Cattle.

The term abortion is applied to the premature birth of the offspring before full term. It is sometimes known as "slinking," "casting," or "losing" the calf. Abortion may be caused by drinking considerable ice-water, eating a large quantity of cold food (frozen roots or green vegetables covered with frost), exposure to rain- or snowstorms or wading in ice-cold water, injuries to the abdomen (as being crushed by a gate, kicks, or being hooked), foods that are easily fermented, also insufficient or very innutritious foods; too close stabling; heavy milking, early breeding, inbreeding, stagnant drinking water, ergotized grasses and smut in the various grains, irritant vegetables, impaction of the rumen and constipation, severe constitutional diseases, direct irritation of the womb (as in the removal of the ovaries or death of the offspring), and irritation of the kidneys. Whenever abortion of cows can not be traced to any of the above causes, the contagious form of abortion is to be suspected.

Contagious abortion is quite common in this State and frequently causes considerable loss, not only from losing the young but also from the fact that many of the cows that have aborted fail to breed again. Contagious abortion is probably caused by several different germs and is transmitted from one animal to another by contact, by means of the discharge from the cow that has aborted, the afterbirth, dead calf, and from bulls

that have served cows affected with the disease.

Symptoms.—Cows may abort any time, but it usually occurs from the third to the seventh month. Occasionally the early symptoms pass unnoticed, but in most cases there is some heat and enlargement of the udder, the vulva is somewhat swollen, and there is a discharge of white or yellowish mucus which is not like the normal transparent material which discharges during heat. After abortion the afterbirth is usually retained, giving rise to a very disagreeable discharge which continues for some time.

Treatment.—All suspected cows should be isolated from pregnant ones, and should any cows abort, the offspring and afterbirth should be burned or buried deeply and the stable thoroughly disinfected by the use of lime on the floor, after all the litter has been removed and burned. Then the woodwork should be disinfected with corrosive sublimate solution, using it in the proportion of one to one thousand. The tablets of corrosive sublimate may be secured at any drug store with directions for use. Ten days after the first disinfection with corrosive sublimate, all woodwork should be disinfected a second time. A week after the second disinfection the entire stable should be whitewashed.

Cows that have aborted should be washed out with a 1 per cent solution of creolin or lysol, continuing this daily until all discharge has stopped. Pregnant cows should be given sodium hyposulfite once daily, in tablespoonful doses, as a drench. When cows abort in pasture, great care should be taken to burn the offspring on the spot where it dropped, and the immediate vicinity should be thoroughly limed.

As a precaution to prevent the spread of the disease in an aborting herd, it is well to disinfect the tails and also the vulva and immediate parts with a 5 per cent creolin solution, to make sure of preventing the entrance of the germ into the womb. Bulls that have been with an aborted herd should not be allowed with healthy cattle; and to prevent their spreading the disease they should receive the same disinfection for cows. Cleanliness and the proper isolation and disinfection of cattle should be strictly adhered to in order to eradicate the disease.

C. L. BARNES.

Spavin.

This disease, known in common language as bone-spavin, is an enlargement of the hock joint similar to a ring-bone about the coronary joint. It may effect the hock joint in such a way as to cement the small joints together, not causing lameness and apparently no blemish, but the free movement of the limb is impaired.

Causes.—In addition to the causes given for ring-bone may be mentioned sprains caused by jumping, galloping, or trotting animals faster than they are accustomed to; also straining by starting a heavy load, slipping on an icy surface, or sliding on a bad pavement.

Symptoms.—If the patient is examined before any bony growth has developed, inflammation will be detected on the inside of the hock joint at the junction of the cannon bone and the joint. While in the stable the horse prefers to rest the diseased leg by setting the heel on the toe of the opposite foot with the hock joint flexed. In traveling, the patient is very lame when first taken out of the barn, but after traveling for a short distance goes sound. The diseased leg is not lifted clear from the ground, but nicks the toe in the middle of the stride, which is very noticeable on a pavement. Like a ring-bone, a spavined horse becomes very lame after being allowed to stand for even a very short time, then moves again.

Treatment.—The treatment for a spavin is the same as for a ring-bone.

C. L. BARNES.

Fistulous Withers and Poll-Evil.

Fistulous withers, often called "thistlelow," is a running sore that follows the formation of an abscess or "gathering" in the region of the withers of horses, or in the upper part of the neck just in front of the withers. A poll-evil is a similar condition occurring in the region of the poll.

Causes.—Fistulous withers and poll-evil are caused by specific germs gaining entrance to the system, probably through the food or water, and locating in the regions above described, where they cause pus or matter to form and thus produce an abscess. It is possible that they may be caused or aggravated by local injuries, such

as blows or ill-fitting collars or saddles or from hitting the poll against the ceiling, or from pulling on a halter.

Symptoms.—At first there is a diffuse swelling of the withers or poll, usually on one side or the other; this swelling is often tender and causes some stiffness in the muscles of the part. Later the swelling becomes more prominent in some part, softens, and, unless opened, breaks and discharges pus or matter. The sore thus formed is lined with a smooth "false membrane" that secretes pus and is very difficult to heal. Sometimes a fistula of the withers, or poll-evil, will discharge for a year or two and frequently causes the death of the animal.

Treatment.—In the early stages it is often possible to cause their absorption or "scatter" them by bathing the affected part with hot water, rubbing and kneading the parts thoroughly and applying a stimulating liniment such as the following: Strong ammonia, one ounce; turpentine, one ounce; water, one ounce; linseed-oil, five ounces. This should be applied once daily until the skin begins to get sore when it can be withheld for a few days and repeated. Application of tincture of iodine, and blisters, are also used to "scatter" fistulas and poll-evil.

After much pus or matter has accumulated, it is impossible to "scatter" them, then they should be opened freely with a knife; good surgeons often dissect them out, at least so far as is possible. The incision should be made as low down as possible to give free drainage. In most cases a cavity will be found with one or more "pipes" extending into the tissues. In case the bones of the withers are ulcerated they must be removed surgically. The cavity should be thoroughly cleaned out and kept clean, all pieces of diseased tissue removed and the cavity dried by swabbing out with absorbent cotton. Pure tincture of iodine should be injected once daily after cleaning and drying. A solution of one part of carbolic acid in twenty-five parts of water is good to clean it out. Pure turpentine can be used in place of iodine with good results in some cases.

Another method of treating after opening is to thoroughly swab out the inside of the cavity and "pipes" with a good liquid caustic such as butter of antimony. In place of a swab, rags saturated with butter of antimony should be packed in the cavity and "pipes"; they should be removed in a few minutes. This destroys the "false membrane," which sloughs out in a day or two. The fistula should be washed out daily, a 4-per-cent solution of carbolic acid used, and the parts kept clean. In using a caustic it should be used once carefully and thoroughly. Repeated use of caustic is injurious, and strong caustics should be used with caution.

Rubbing with liniment or applying a light blister about the diseased part is often useful in assisting the healing process. Other good solutions used to inject into the cavities for cleaning and healing are: Corrosive sublimate one part, water one thousand parts; blue vitriol, pulverized, one teaspoonful dissolved in a pint of water, or a 1-per-cent solution of creolin or similar coal-tar products.

In treating these diseases, a good syringe with a long nozzle that can be inserted into all parts of the fistula, is essential. Showering the part once daily with cold water, with considerable force from a hose, and then rubbing briskly until it is dry, is often beneficial. It is important that the fistula should heal from the bottom; if the outside opening is allowed to close before the cavity has healed it will break out again.

Animals with a fistula or poll-evil should be well fed with nutritious food, and salted frequently. A tonic condition powder is often very useful. The following is good: Sulfate of iron, one ounce; hyposulfite of soda, one ounce; saltpeter, two ounces; Nux vomica seed, one ounce; Gentian root, two ounces. All should be well pulverized and mixed. A heaping teaspoonful can be given in the feed twice daily.

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