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100 head. Foundation stock, Tecumseh. Boars in service, Tecumseh Joe 13444 S., Chief 13840 S., Butler Wilkes 17764 S., U. S. Tecumseh 17850 S. 15 fall gilts, 30 spring pigs, 30 summer pigs. Inspection and correspondence invited.

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Herd boars, Gold Standard Wilkes by Guy Wilkes 2d 17777 S. and Ideal Quality by Darkness Quality 2d 14361 S. Brood sows, Tecumseh, Black U. S. and Wilkes. Thirty spring pigs, both sexes, ready to go. Farm two miles north of Weldo.

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W. E. JOHNSON, Colony, Kas. **E. A. BRICKER,** Westphalia, Kas.

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J. T. LAWTON, BURTON, KAS., proprietor. All stock guaranteed. I can also ship from Topeka, my former place.

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Composed of the BEST POLAND-CHINA Blood Known.

The present offering consists of August, September and October pigs—10 boars and 20 sows—very choice. The stock by or bred to Kievers' Model, What's Wanted Jr., Hidestretcher, Wilkes, Waterloo Chief, etc. For further information address,

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Herd boars, Victor Hugo 41799 (sire imp.), Barkis 30040 (weight 800 lbs.), Prince Jr. 17th, from World's Fair winner. Choice pigs from five different strains. Also bred Shropshire sheep, M. B. turkeys and B. P. Rock chickens. Write.

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Fifty boars and gilts for this season's trade. My herd boars consist of Darkness Quality 14361, Princeton Chief 14543, Col. Hidestretcher 37247 and Standard Wilkes. My sows are splendid individuals and of the right breeding. Personal inspection and correspondence invited.

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SUNFLOWER HERD OF SHORT-HORN CATTLE and POLAND-CHINA SWINE.

125 head in herd, with Sir Knight 124403 at the head. Females are by such imported Cruikshank bulls as Craven Knight 96923, Thistle-top, Master of the Rolls, Earl of Gloster 74523, Viscount Richmond, Knight Templar 66538, etc. Forty very choice brood sows. Young stock for sale.

ANDREW PRINGLE, Harveyville, Kas.

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Guy Darkness 18292 and Best Nims 19612, herd boars. Sept. '97 boars and gilts for sale. Guy Darkness gilts will be bred to Best Nims for fall farrow.

Correspondence or inspection of herd solicited.

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ARE SECOND TO NONE.

FARM READ THIS SPECIAL OFFER:

Will sell February and March pigs during July for \$15 each, delivered at any railroad station in Kansas or Nebraska.

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Headed by the three grand breeding boars, Model Combination—his sire was J. D. Model, he by Kiever's Model 14664 out of McKelvey's Lass 42107; his dam Lady Chief 42919, she by Chief Tecumseh 2d 9115 and out of Ralph's Pet 42788; One Price Chief—his sire Chief Tecumseh 2d 9115, his dam Alpha Price 38785, she by One Price 4207; Kansas Chief 33615—he by Royal Chief's Best and out of Bell O. 74594. The sows are all selected and equal in breeding and quality to any. A few sows bred will be offered. Young males and gilts ready. Satisfaction guaranteed.

James Mains, Oskaloosa, Jefferson Co., Kas.

Owned by Y. B. HOWEY, TOPEKA, KANSAS.

Breeder and shipper of thoroughbred Poland-China and Large English Berkshire swine and Silver-Laced Wyandotte chickens.

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POLAND-CHINAS and LARGE ENGLISH BERKSHIRES. Two hundred head. All ages. 25 boars and 45 sows ready for buyers.

THE SEDGWICK NURSERY CO., Sedgwick, Harvey Co., Kas.,—Breeder of—

Short-horn Cattle and Poland-China Swine Of the Best Strains.

Stock for sale. Correspondence and inspection invited.

CATTLE.

ROCK HILL HERD OF SHORT-HORNS.

An Elbert & Falls "Waterloo" bull and Norton's "Clipper" Scotch bull "Cupid" head the herd. Ten Scotch and Scotch-topped daughters of the great Linwood "Lord Mayor" and several daughters of C. C. Norton's "Imp. Salamis" included. No heifers or bulls old enough for service for sale.

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Scotch and Scotch-topped, with the richly-bred Champion's Best 114671 in service. Also high-class Duroc-Jersey swine. Can ship on Santa Fe, Frisco and Missouri Pacific railroads.

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

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Registered Galloway Cattle. Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion, Habbo, and the saddle stallion, Rosewood, a 16-hand, 1,100-pound son of Montrose, in service. Visitors always welcome. Address

BLACKSHERE BROS., Elmdale, Chase Co., Kas.

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H. E. BALL, Proprietor. Registered Jersey cattle. Young bulls and heifers for sale.

Registered Poland-China swine. Young boars for sale.

Farm two miles east of Topeka on Sixth street road.

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C. A. STANNARD, Prop., Hope, Kas. Breeder of

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Bulls in service: Kodax of Rockland 40731, who has won more first premiums at leading State fairs in past six years than any other bull in Kansas; Java 64045. Thirty-five yearling heifers and seven bulls 3 to 7 years old for sale.

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LIVE STOCK AUCTIONEER, LAWRENCE, KAS. Years of experience. Sales made anywhere in the United States. Terms the lowest. Write before claiming date.

S. A. SAWYER, FINE STOCK AUCTIONEER—S. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Compile catalogues. Retained by the City Stock Yards, Denver, Col., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle in America. Auction sales of fine horses a specialty. Large acquaintance in California, New Mexico, Texas and Wyoming Territory, where I have made numerous public sales.

Live Stock Artist.

F. D. TOMSON, 514 Monroe St., Topeka, Kas. Portraits for framing and cuts prepared for advertising purposes. Breeders' correspondence solicited.

FRUIT FARMS FOR SALE.

Two highly improved, up-to-date fruit farms, immediately on west bank of Missouri river, in extreme southeast Nebraska. Best fruit soil in the world. Crops sure and remunerative. Particulars, address

ROBT. W. FURNAS, Brownville, Neb.



Kansas Building at Omaha Exposition.

KANSAS AT OMAHA.

ADDRESS OF WELCOME.

by Mr. John E. Frost, Vice President Kansas Commission, at dedication of the Kansas building at Trans-Mississippi and International exposition, Omaha, Neb., June 22, 1898:

May 30, A. D. 1854, was an eventful day. It marked the beginning of an epoch in the history of our nation, which, in its achievements, makes it possible for us to meet here to-day to dedicate this building as a part of this great exposition of the resources, development and boundless promise of the mighty West.

On that notable day Congress passed an act creating the twin Territories of Nebraska and Kansas, and while the statesmen of that day undoubtedly foresaw a great future for this then unpeopled region, who could have foreseen the marvelous growth which the two States have attained in the half century that has since elapsed? What prophetic vision could have revealed the scenes that surround us here to-day within the boundaries of the territory carved out of a vast wilderness? The twin Territories, become States, have grown side by side in close friendship and generous rivalry, surpassing in their attainments the fondest hopes of their creators, and to-day they clasp hands, while Kansas renders ready tribute to the prowess of her sister State as exemplified in the splendid creations with which we are surrounded.

I esteem it a great pleasure, a high privilege on behalf of the Kansas commission and of our fellow citizens of the Sunflower State to welcome to the dedication of the Kansas State building our friends who honor us with their presence this morning.

We congratulate the managers of the Trans-Mississippi and International exposition upon their daring spirit and matchless pluck in conceiving and undertaking their great enterprise and upon their tireless energy and skillful management in putting it in successful operation.

We most cordially welcome the representatives of Nebraska and of Missouri and of Iowa, of the great Northwest and of the great Southwest, of the Rocky Mountain regions, and of the Pacific slope, component parts of this marvelous trans-Mississippi domain; we welcome our friends from Illinois, which great mother has sent to both Kansas and Nebraska a greater proportion of its population than any other State in the Union; we welcome those from the Buckeye, the Badger and the Hoosier States, and from the grand old Empire State, from staunch New England, the sunny South and from all the others.

RESPONSE.

by G. W. Wattles, President of the exposition:

If, forty years ago, a prophet had foretold the history of Kansas he would have been confined as a lunatic. On May 30, 1854, the Territory was organized. Not a mile of railroad had been constructed, no towns of importance built, the land in the interior was considered barren and worthless, Indian massacres were frequent, its population was turbulent, and for many years the slavery question raged within its borders and in Congress, threatening to disrupt its vacillating government, if not the Union of the States. During these dark days of its early history the Territory was known as "Bleeding Kansas," and the wildest imagination could not have foreseen its grand march of progress. No one could have foretold that out of the chaos of its Territorial organization a peaceful, law-abiding State would evolve; that the pony express, once the pride of the State, would give place to the trans-continental train; that the Indian and buffalo would give possession to the white man and his herds and that

the barren plains would blossom as the rose.

But the history of Kansas, with few unimportant variations, has been the history of the entire West. This history reveals a growth and development and such rapid changes wrought by the genius of the past generation that even those who have lived in the West during this period can hardly realize the magnitude and importance it has attained. When we consider that 80,000 miles of railroad have been built west of the Mississippi river during the lives of many here present; that the telegraph, the telephone, electric lights, electric cars, the sewing machine, the self-binding reaper, the riding plow, the use of gasoline, the bicycle, the sleeping car and thousands of other inventions and discoveries have been made during the present generation, we cannot wonder that with the impetus given by these products of human skill the West has outgrown even our own knowledge and appreciation.

It is therefore proper and right that by a great exposition of our resources we should not only teach our own people but the people of all the world the lessons of our past progress and future possibilities. The State of Kansas is second to none in salubrious climate, rich soil, intelligent and moral citizenship, and when our invitation to exhibit her resources here was accepted we realized that the other Western States would be put to a severe test to display her resources that would equal in variety and perfection those that would come from the "Sunflower" State. Unfortunately, the last Legislature of Kansas failed to make a State appropriation for this exhibit; but the well-known enterprise of her citizens, and especially of her Governor and the excellent commission appointed by him, not only raised the necessary funds for a creditable exhibit, but also with which to build this magnificent home for all her citizens who may visit this exposition. I cannot refrain from commending in the highest terms the personal sacrifices and intelligent work of the commission appointed by his excellency, the Governor of Kansas. They have erected on these grounds this beautiful building which we this day meet to dedicate. The beauty of its architecture, the economy of its construction and conveniences of its furnishings speak volumes for the ability and good judgment of the commissioners who have represented this State here. For the management of the exposition I take pleasure in approving their work and accepting this building for the purposes for which it has been erected.

By this act of the State of Kansas in promoting this exposition and furnishing a home for its citizens while here a new tie of friendship has been formed which will bind the people of this State and the entire West together in closer bonds of commercial, political and friendly interest. The work of this exposition will accomplish more toward a union of the interests of the West than any single enterprise could ever accomplish in any other way. We yearly realize that the great economic and political interests of all the States of the West are identical. The transportation of our crops to the markets of the world, the irrigation of our arid lands, the propagation of the best varieties of grain, fruit and stock, the development of the best means of extracting and utilizing the rich ores in our mountains, the promotion of our manufacturing and commerce, the education and moral training of our citizens, are all questions of common interest to a common people, and the frequent display of the best products and the best methods in friendly emulation by the States of the West will promote the welfare and good citizenship of all.

No State in the Union can show a more rapid increase of population and wealth during the past twenty years than Kansas. One of its most prominent

statesmen made the assertion that the exhibit made by his State at the Centennial exposition at Philadelphia attracted to that State 500,000 of its population in five years, and when we consider that the increase of population from 1870 to the present time has been more than 1,300,000 and that this great increase immediately followed the Centennial exposition and largely came from Eastern States, we cannot doubt the statement, and yet there is room within its borders for thousands who now live in less favored climes. When we consider that with the same density of population as the State of Pennsylvania, Kansas can provide homes for 10,177,000 people we can appreciate the possibilities which the future has in store for this rich State.

It has been said by some that without artificial stimulus the inhabitants of the world will in due time appreciate and embrace the advantages of the West. But if the men of this generation would reap the benefits and higher civilization brought about by the increase of wealth and population, they must advertise by every means possible the advantages and possibilities of this territory. It is true that Kansas produced last year more grain than was produced by the New England and seaboard States combined; but if at the same time she could produce her own sugar, clothing, boots and shoes and agricultural implements, she would have room and ample employment for double her present population. In 1890, out of a population of 1,427,000 but 65,579 were engaged in manufacturing; and while in that year she produced 337,754,000 bushels of grain, the materials used in manufacturing were valued at but \$63,677,000. It is evident from these statistics that there is room within the State of Kansas for a large increase of population and capital.

That the exhibit made by the State of Kansas at this exposition and this beautiful building erected here which stands as a monument to the enterprise and good will of her citizens may return to this State a thousandfold the value of its cost, is my earnest wish and hope.

Agricultural Matters.

IMPORTANCE OF SEED SELECTION.

Written for Kansas Farmer by George L. Clothier, Assistant Botanist, Kansas Experiment Station.

Few farmers comprehend the influence exerted upon a crop by good seed, or the injury that may result from the sowing of poor seed. The propagation of plants from weak or degenerately inclined parents frequently results in great financial injury to the propagator, and may also result in contamination of all the seed produced in a neighborhood. A seed contains the hereditary tendencies of thousands of generations. If its progenitors have tended toward barrenness or fruitfulness it will tend in the same direction. If the corn plant resulting from a certain grain is given the very best possible conditions for its growth and maturity, we can expect the plant to evolve what heredity has put into it. If one of its parents came from an extremely fruitful type while the other came from a family characterized by barrenness, we can at best only hope for it to be indifferently fruitful.

A few figures to contrast the apparent possibilities of our ordinary cereals with the results realized might aid weight to the foregoing. Taking five wheat plants at random from a field of Zimmerman wheat, I found the average product to be three heads to the plant, containing an average of thirty-four grains each. If every grain sown had germinated and developed average plants, each bushel of seed ought to have produced 104 bushels of wheat. One bushel and a peck of seed was sown per acre, hence we ought to have received 130 bushels per acre, providing that all the seed grew into average plants. No farmer expects more than 90 per cent. of germination in the field, and 90 per cent. of 130 would give us 117 bushels per acre as the average possible product of Zimmerman wheat. Instead of this enormous yield we are satisfied with twenty bushels per acre—less than one-fifth of the product that we ought to have received from one bushel and a peck of good seed.

With oats, I found the results more astounding. Five oat plants pulled up at random from an average field contained an average of four heads to the plant. These averaged sixty-four flowers to the head, making 256 flowers to the plant. If each flower should produce a grain, and every grain sown last spring had germinated, one bushel of

seed ought to produce 256 bushels of oats. Two and a half bushels of seed were sown to the acre, and consequently the product ought to be 640 bushels per acre with perfect germination. Counting but 90 per cent. to have germinated, the product ought to be 576 bushels per acre. One-tenth of this is considered a very high yield of oats in Kansas.

What became of the plants, in the fields under consideration, that evidently never reached maturity? My theory is that, owing to hereditary weakness, they perished in the struggle for existence with each other and with the survivors. This struggle injures the surviving plants just as certainly as a struggle with weeds would injure the same. Sowing five times as much seed as is needed with the expectation that one-fifth of the plants will crowd out the other four-fifths, seems to me to be a very extravagant process, taxing the ability of the one-fifth almost to the limit and wasting the energies of the surviving plants in the mere effort to maintain possession of the soil. Such a struggle must greatly reduce the fruitfulness of the surviving plants. And yet experience has proven that farmers must sow thus lavishly in order to insure a fair crop. The trouble is in the low vitality inherited by nine-tenths of the seed sown. If seed could always be sown that certainly contained enough vitality to develop 90 per cent. of full-grown healthy plants, one peck of wheat or oats per acre would be an abundance of seed. This would effect an annual saving of about 50,000,000 bushels of seed wheat in the United States alone.

By judicious selection of seed good qualities may be bred into a variety and bad qualities bred out. In this manner Mr. F. F. Hallett, of England, in the short period of four years increased the length of wheat heads from four and three-fourths inches to eight and three-fourths inches and the grains per head from forty-seven to 123. Both fruitfulness and vitality can be increased by the same process of selection. If a farmer will set apart a plot upon which to grow his seed wheat he can very materially increase both fruitfulness and vitality in the following manner: Go through the field and cut off all the weakly looking and short heads as soon as they show themselves above the top blade, leaving only large, typical heads to ripen. If this process be kept up for a series of years, Mr. Hallett's results prove that much can be done to improve the type.

The size and weight of the grain used for seed also have a marked influence upon the vitality and quality of the progeny. Mr. H. L. Bolley, of North Dakota Experiment Station, says: "Large, heavy seeds produce strong plants with a greater capacity for normal reproduction than do normally developed small seeds of the same variety."

In a field test in Ohio the use of "first" and "second" grade wheat for seed resulted in a product from the first grade varying from 0.7 of a pound to 2.7 pounds heavier per bushel than the product from the second grade seed.

Wheat for seed can be very readily graded with a fanning mill. Other machines more perfect will no doubt come into use when farmers are thoroughly aroused to the importance of using only the choicest, heaviest grains for seed.

Great waste and injury to our cereal growers occur by injudicious exchange of seed. Every farmer should breed up his own varieties of grains upon his own farm. Mr. Bolley, quoted above, says: "Varieties of wheat do not degenerate because of continuous growth upon the same soil. The theory that proper wheat culture demands a frequent change of soil is fallacious. Failure often results from injudicious seed exchange. Seed exchange, as practiced, precludes any proper methods of crop improvement by careful culture and seed selection." (Bulletin 17, North Dakota Experiment Station, page 101.)

The above stated facts are due to the operation of the law of evolution. The longer a variety or species grows upon the same soil or under the same conditions, the more perfectly it becomes fitted to its surroundings. The only reason that slipshod farmers so often find their varieties of grains "run out" is because they have been breeding from the poorest for a series of years. They know of no other way to improve their seed than to purchase from some careful farmer who has been breeding his variety up while they have been breeding theirs down. It thus happens that seed exchange seems in such cases to produce good results. Every successful farmer must, from necessity, in the near future, be as thoroughly acquainted with the laws and methods of plant breeding as are our successful stock raisers acquainted with the laws and methods of stock breeding.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

AUGUST 24—Henry Comstock & Sons, Poland Chinas, Cheney, Kas.

BOVINE TUBERCULOSIS.

The following abstract of the recent bulletin of Kansas Agricultural College Experiment Station on "Bovine Tuberculosis," by Dr. Paul Fischer, professor of veterinary science at the college and the station, is reproduced from the June Industrialist:

"The object of this bulletin is to give popular information on tuberculosis as a disease among cattle and its relation to human health.

"Tuberculosis is a specific infectious disease, the sole cause of which is a bacterium known as the tubercle bacillus; but a certain predisposition, which may be natural, congenital or acquired, favors an attack by this germ. This disease is widespread; it is common in nearly all countries; nearly all domesticated animals are subject to its attack, and many wild animals that are kept in confinement become its victims. In human beings one-seventh of all recorded deaths are ascribed to it. The fact that this disease is identical with tuberculosis or consumption in man, and that it can be, and frequently is, communicated from man to animals and from animals to man, makes it a subject of interest to every one.

"A study of the peculiar characteristics of the tubercle bacillus as compared with most other disease germs, with respect to its life habits, reveals some very important facts. The tubercle bacillus is what is known as an obligate parasite, one that can live and propagate indefinitely on living animal tissues only.

"Living human beings and living animals affected with tuberculosis, or products of such animals, are, therefore, the only possible direct sources of infection by this disease. Knowing this, if we took the proper precautionary measures, and made other necessary sacrifices, it would be possible to stamp this disease out of existence. The prevalence of tuberculosis makes this a question of no little importance. Just how these precautionary measures shall be taken, and just what sacrifices are necessary to be made to accomplish our greatest desire, viz.: the complete stamping out of the disease, is a question for the future to solve; too many obstacles are, at present, in the way; some of these are of a purely economical nature, others are of a moral or ethical nature; both are about equally difficult to overcome. They would require among other things the quarantining or complete isolation of all affected human beings and the same measures, or destruction, of all affected animals. The latter method is the only possible one for animals, and is recommended, in one form or another, by all writers on this subject. The old supposition that tuberculosis is transmitted from parent to offspring (is inherited) has been proven to be a theory only. From careful experiments made on the lower animals, and from extensive observations in slaughter houses, it has been shown that in exceedingly rare cases only are animals born with this disease. They acquire it later in life. Offspring from affected animals become affected with tuberculosis more frequently than others, but this is chiefly because they are exposed to the dangers of infection attending the constant association with a tuberculous mother.

"Besides this, it has been found that certain animals and certain human beings are naturally predisposed to acquire this disease; offspring from such mothers are similarly predisposed because they inherit this predisposition as they do any other biological characteristic. If all men and all animals had equal predisposition to be attacked by this disease the world would long ago have become depopulated. There is a continual weeding-out process being carried on by nature by which the weaker will finally disappear entirely, the stronger will survive. This is a sure process, but it is equally slow. We can aid nature in its work. Among our domestic animals at least, by proper selection, we could breed a race that would approach more and more a tubercle-proof condition. This can evidently not be done by resorting to the frequently recommended plan of breeding healthy calves from slightly affected tuberculous dams. These calves, though healthy, will be more predisposed to be attacked by tuberculosis than calves from dams free from this disease; not because their dams had tuberculosis, but

because they were weak enough in the first place to be attacked.

"Space is too short to go into detail about the measures requisite to control the spread of this disease. It will be sufficient to say that aside from affected human beings, the meat and milk, butter, cheese, etc., of tuberculous cows is considered the most frequent source of tuberculosis among human beings. Such products should be avoided and should not be allowed to be placed on the market. State laws relating to the selling, or offering for sale, of products from tuberculous animals should be enacted, and a system of meat inspection, which alone would make such laws of value, should be introduced. While waiting for this to be done we can protect ourselves to a certain extent, at least, by eating only meat thoroughly cooked, and by boiling milk before using it when it comes from a suspected dairy. This process kills the tubercle germ.

"The symptoms and post-mortem lesions of this disease cannot be touched upon here. Tuberculosis is a disease that cannot, as a rule, be detected in the living animal by ordinary means, unless it is in a very advanced stage of development. The discovery, by Dr. Robert Koch, of tuberculin (a product of the tubercle bacillus), although originally not prepared for that purpose, has proved to be a diagnostic agent by means of which the slightest cases of disease can be detected, and thus a simple and cheap method for ridding our dairy herds from this disease is at our command.

"The importance of thought in this direction cannot be overestimated. Our dairy industry is on a rapid increase, and the reputation abroad that Kansas could furnish tubercle-free dairy products to the world would be not only an enviable one, but it would be exceedingly profitable. If any State in the Union can afford to acquire such a reputation Kansas is that State. At present tuberculosis no doubt exists in every State in the Union, in some to a greater and in others to a less extent.

"In Kansas it is undoubtedly less common than in many other States; the dry, invigorating climate and higher altitude of the State account for this. But that the disease does exist is shown by the results of the few tuberculin tests that have thus far been made, and by the post-mortem examinations held on reacting animals.

"The method of using tuberculin and of interpreting the results of tuberculin tests is fully dealt with in the substance of the bulletin. So-called temperature or fever curves are best adapted to show the character of the reactions.

"After a herd of cattle has been tested with tuberculin all reacting animals should be disposed of in one of several ways, according to circumstances, and then a thorough disinfection of everything with which the diseased animals have been in contact should follow. Corrosive sublimate in one or two per mil solutions is the cheapest and most effective disinfectant for this purpose. A spray pump is the best instrument for applying the disinfecting fluid.

"In buying or introducing new animals into a herd the greatest care should be exercised to prevent reintroduction of the disease. An annual repetition of the tuberculin test is advisable as a safeguard in this respect."

The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

Questions About Bees.

Editor of the Apiary:—I have been reading your bee notes and like them very much. A swarm of bees came to my place, and having no hive, I put them in a cracker box, and they went to work. Now I want to transfer them to a good hive. How can I do it? They have the upper third of the cracker box filled with comb ready to put honey in. It is a large colony, containing about 10,000 bees, as near as I can estimate. By getting another queen, could I successfully divide the colony? Would they work any better or breed any faster? Do you have pure Italian queens for sale? What do you consider the best book for a beginner that knows absolutely nothing about bees? Do you consider bee-keeping a profitable industry in this State in connection with general farming? Where do you market your honey? About what is the average price? If you can, without too much inconvenience, reply to above, you will greatly favor a fellow Kansan.

Windom, Kas. L. H. BIRCH.

You can readily transfer your swarm of bees to a movable frame hive from

the cracker box. I would go about it this way: Get your frame hive all in readiness, place it on the exact spot you want it to remain, and that is as near the other hive as you can get it, so as not to change the location. You can set the cracker box with bees a little to one side, and put the new hive in the exact spot of the former. After planting your hive firmly, pick up the box of bees and with the lid removed from the frame hive, fetch your cracker box down on it with a jar hard enough to dislodge as many bees as you can into the hive, but not hard enough to break the combs. Now throw a cloth over the bees and they will go down into the new hive. Take the box apart if necessary to get the remaining bees out, and do this carefully, for most likely the queen is in the combs yet. Place the remaining bees at the entrance of new hive and they will go in. Be careful to see that all the bees are in the hive (except those on the wing), so that you have not likely omitted the queen. If there are enough combs in the box to bother with you can cut them out and fit them in a frame or two, and fasten them by tacking thin strips of wood on each side of frame. If the cracker box should be full or nearly full of comb when you transfer, this plan will not work, but you must take the side off the box and cut out the combs one by one, brush the bees off into the new hive, and if the combs are not too tender to stay in place in the frames, cut and fit them all in; if they are too tender, just cut them out and brush the bees into the other hive and lay them to one side. When all the combs are out, shake the bees off the box into or at the entrance of new hive. In this case the frames of new hive should all be filled with foundation comb, and in this condition at this season of year the bees will soon fill up and do well without their old combs. If there is much brood in the combs it is more loss than the honey.

It would not do to transfer and divide them at the same time, but wait until they have the new hive well filled with brood and honey, and then divide them if desired and introduce a queen to the queenless half in about four or five days after the division is made. No natural swarm of bees should be divided until they have a large amount of brood hatching.

I consider that the eastern two-thirds of the State of Kansas is a good average locality for bees and honey, and they may be profitably kept in connection with general farming, or be made an exclusive business. The western one-third of Kansas, where alfalfa clover is grown, is equally as good as any. I usually sell my honey in home markets at from 10 to 15 cents per pound, and to commission merchants in large cities at from 7 to 12 cents, the comb honey bringing the highest price. I keep only Italian bees, having queens imported direct from Italy. Yes, I can furnish queens, bees, books and supplies generally.

Large Honey Crops and How to Obtain Them.

The apiarist should know just when to expect the principal honey flow of the season, and to this end he should work everything to be in readiness for it. Localities differ to some extent in this respect, and widely differ when we take the extremes of great distances and different climates. Hence the time to prepare for the honey harvest depends on the locality. Usually in this country the principal honey harvest comes in the month of June.

Reports of large honey crops which are secured at the present time are looked upon to some extent by the general reader with suspicion, they having no knowledge of the improvements in the management of bees at the present time. But the possibilities of securing valuable returns from bees properly managed now are by no means in doubt. The foundation of good returns from a colony of bees is in its strength. The number of bees in a colony may vary from 2,000 to 75,000, so that we could not expect as much work done from the first number as we could from the second. Now we have the full control of this in our own hands, and we can have either weak colonies or we can have strong ones.

In the first place, the foundation of strong colonies depends to a great extent on fall and winter management. If we go into winter quarters with a weak colony, we will always come out in the spring with a much weaker one, if it survives the winter at all. Breeding in a colony at any time in warm weather depends upon the flow of nectar from flowers, for they will never fail to become strong if they can gather honey.

Salt Rheum

Intense Suffering—Could Not Sleep—Cured by Hood's Sarsaparilla.

"I had salt rheum on my arms, which itched intensely and kept me from sleeping. The skin on my hands would crack open. My friends believed I was suffering from blood poisoning. I decided to take Hood's Sarsaparilla. I did not see any improvement with the first bottle but continued with the medicine and after taking five bottles I was completely cured. My hands are now as smooth as I could wish." A. D. HAGEY, Elroy, Pa.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier. Sold by all druggists. \$1; six for \$5.

Hood's Pills are prompt, efficient and easy in effect. 25 cents.

We can imitate this at any time when it is necessary to have them strong by feeding them. Bees may have a good supply of reserve stores in their hives, and plenty to keep them for six months, but they invariably stop breeding when the flow of nectar stops, so that breeding can be pushed to its utmost capacity by feeding a little sirup every day, about as much as the bees would gather at the time of a honey flow. The time to do this is in advance of the time we want the use of the bees. For instance, if our honey flow comes in June, we must feed some two months prior to this, the length of time, of course, to depend upon the amount of strength we wish to obtain.

Next in importance are the hives and their management. There is practically but one style of hive used at the present time by all leading apiarists, and also by those who have some knowledge of the present system of bee-keeping. These hives are free for any one to make, and are manufactured or kept for sale in almost every town of any importance in the country, and it requires but little effort for any one to obtain them. These hives have several names, but are one and the same thing, and are known as the Langstroth, the Simplicity, and the Dove-tailed.

The brood chamber, or the movable frame hive contains about 2,000 cubic inches, and the surplus department is in sections of about 1,000 cubic inches each, and two of them are ordinarily used at the same time, but may be used single or more than two at the same time, owing to the strength of the colony. These sections, or crates, rather, hold each twenty-four one-pound section boxes, and when more than one is used they are tiered up one above the other, and each time one is added it gives twenty-four pounds more of surplus storage space. When two crates are on the hive the surplus department is of the same dimensions as the brood chamber, and when more of them are added it increases the surplus space and makes it greater than the brood chamber to whatever extent crates are added. This is where the common mistake is made by uninformed bee-keepers—they do not use enough surplus storage space. The above, of course, applies to comb honey raising.

In extracting honey we use for surplus storing a set of combs in every respect the same as the brood chamber. This is nothing more than one hive set on top of the other. There are eight frames of comb to each hive, and the size of these frames in the hives referred to are 17½ inches wide and 9½ inches deep. One thing of importance in securing a large honey crop is in removing the honey from the hives just as soon as it is completed, and do not wait until after the honey season is past. The surplus space that I have given above is alone not ample to accommodate the bees, for they are capable of storing several times this space in a good honey season, and hence it is necessary to keep removing it continuously, thus keeping them in all the storage room space that they can occupy at all times.



BEE SUPPLIES.

I have every thing that is needed in the Apiary. Send for CATALOGUE. E. W. DUNHAM. 106½ W. 5th St., Topeka, - Kansas

ITALIAN BEES.

Bred from queens imported from Italy. Full colonies; two, three and four frame nucleus shipped anywhere and safe arrival guaranteed. We ship Bee any time from March to November. Queens, hive and supplies generally.

A. H. DUFF, Larned, Kas.

WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending June 27, 1898, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

A warm week, with three days of quite warm weather. Showers have fallen in the middle and eastern divisions, the areas of heavier rainfall appearing in two nearly parallel paths extending from the middle counties to the eastern line of the State, one through the northern, the other through the southern counties. But one shower was reported from the western division, on the 23d, in Clark.

RESULTS.

EASTERN DIVISION.

A very favorable week for corn, and most of it has been well cleaned, some being laid by as far north as Osage. Wheat harvest is progressing in all parts, being nearly finished in the southern counties; the crop has been seriously injured by rust, in some of the central counties it being reported as nearly a total failure. The grass is fine; haying of tame grass is progressing and a very good yield is being realized. Oats harvest has begun in the south. Apples have nearly disappeared in many of the counties. Potatoes are good.

Anderson county.—A dry week; wheat harvest well advanced but apparent yield disappointing, owing to rust; early corn laid by, later plantings in all stages and conditions; haying in process; second crop of alfalfa ready.

Atchison.—Corn very weedy, but being cleaned; clover ready to cut, a good crop; wheat harvest begun, much of the wheat nearly ruined by rust; oats promise well, but rust may injure them; flax looking well; potatoes for late crop being planted.

Bourbon.—Most of the corn in fine condition, some laid by; rye harvested and a good crop; some wheat cut, not good—ruined by bugs; some of the oats are not good and are being cut for hay, the larger part of the crop is very fine; grass in excellent condition.

Chase.—Good week for work; some corn being laid by; wheat harvest progressing; potatoes a good crop.

Chautauqua.—Wheat harvest completed, except on some bottom lands, where it is still wet, threshing begun; 25 per cent. of the wheat lost by the wet harvest; oats harvest begun.

Cherokee.—A good growing week; too wet

berries on market; pastures never looked better, and cattle are thriving.

Pottawatomie.—Wheat harvest half over, the crop badly blighted by rust; oats good, commencing to ripen; corn weedy, but looking well; potatoes and gardens doing well.

Riley.—Wheat ready to harvest, but much of it in extreme south a total failure, owing to rust; corn is being put in good condition.

Shawnee.—In southern part wheat and oats are well headed and ripening rapidly; in northeastern part wheat nearly a total failure, owing to rust—much of it will not be cut; oats are rusting but not yet ruined; tame haying begun, crop good; corn growing rapidly, prospect very good.

Wilson.—Corn is spotted where water stood in low places; wheat harvest over; oats harvest begun; wheat is not as plump and heavy as expected, owing to rust and bugs; oats a good crop; some corn tasseling; threshing begins next week.

Woodson.—Corn growing rapidly, most of it clean, many fields laid by; wheat harvest progressing rapidly, yield not as good as expected; flax fine; haying begun, crop will be heavy.

Wyandotte.—A fine week for work; harvest well under way; everything growing rapidly.

MIDDLE DIVISION.

Wheat harvest is progressing in the south and beginning in the north; several of the counties reporting damage by rust or blight, others a good crop. Rye harvest is in progress in the northern, and rye and barley harvest in the western counties. Corn is growing rapidly and many of the fields have been cleaned, some farmers using the lister for that purpose. Grass is fine, affording very good pasture, and giving good promise for hay. Oats and late cherries are ripening.

Barber.—A fine week for farming operations; wheat and rye harvest in progress; corn, cane and Kafir in best condition; cattle in good condition; water plentiful; fruit of all kinds scarce.

Barton.—Wheat ripening rapidly; some wheat and barley cut; harvest in full progress; the 27th, some complaint of black rust, a severe hail storm north of Clifton, one farmer losing 400 acres of wheat.

Butler.—Favorable for work and growth; chinch bugs precipitated harvest prematurely, and wheat largely in shock or stack; many farmers leaving the corn to save the wheat; oats thin on ground, but filling well; corn generally weedy, but good; late cherries ripening.

Cloud.—Corn growing rapidly; a good week for cultivating.

Cowley.—Corn doing finely, but needing rain; wheat about all cut, badly damaged by black rust; oats nearly ready to cut.

Dickinson.—Wheat harvest commenced, will be general next week; hot weather has ripened wheat a little too fast and the berry is not as plump as it should be; corn doing well, but will soon need rain.

Edwards.—A fine week for cleaning the corn fields; barley and rye harvest begun; wheat ripening; beginning to lay corn by, early corn as high as a man's head.

Ellis.—A good week for maturing wheat; harvest commences the 27th.

Harper.—Harvest in full progress; some damage from wet weather, heads not well filled; corn, where cultivated, doing well, many fields taken by weeds; pastures fine.

Harvey.—Wheat cutting is in progress where ground is not too wet, some pieces ruined by rust; corn making fine growth, as also grass.

Kingman.—Wheat harvest progressing, every available machine being used; corn improving.

McPherson.—A dry, hot week, good for cultivating corn and for harvest, which has begun; wheat all ripened at once, is fine quality and will yield heavily; oats looking well; corn doing better.

Marion.—Harvest has commenced; wheat and oats in fine condition for cutting; corn doing well, but very weedy in places; grass and pasture fine.

Osborne.—Corn looking well; red rust bad on wheat; wheat ripening rapidly; rye being cut.

Ottawa.—A good week for working corn and it is doing finely; early potatoes a good crop; prospects generally good.

Phillips.—Corn a splendid stand and being well cultivated; wheat harvest begun, a fine crop, though some rust; oats very heavy; alfalfa nearly all cut, a fine crop.

Reno.—Fine growing weather; ground in good condition for cultivating and much has been done; harvest well under way, largest wheat crop for many years; early harvest blackberries and cherries ripening.

Rush.—Small grain maturing rapidly; early wheat good, late wheat needing rain; harvest just begun.

Russell.—Corn cultivation rushed; wheat cutting just begun; gardens needing rain, nothing else suffering.

Saline.—Good weather for harvest week; corn making a fine growth.

Sedgwick.—Early wheat scalded some; harvest being pushed and most of the wheat will be saved in good condition; corn growing very rapidly and is being cultivated; oats turning some rust.

Stafford.—Favorable week for farm work;

harvest begun in south part, showing a fine berry.

Washington.—A good week for cleaning corn fields, corn growing very rapidly, weeds will injure it some; rye harvest begun; oats promise a good crop; wheat harvest beginning in south part, some late pieces damaged by blight and rust; late cherries getting ripe.

WESTERN DIVISION.

A warm, growing week, with good weather for field work. The cultivation of corn has been pushed, the planting of forage crops completed and the alfalfa hay crop secured. Rye is ready to harvest; wheat nearly so. Barley and oats are headed. The dry, hot weather is baking the ground, and late crops will suffer if rain does not come soon.

Finney.—All crops doing well; a good week to kill weeds and harvest the first crop of alfalfa; prairie grass was never better since settlement of county; cattle and horses in fine condition, cattle getting fat; no new cases of blackleg.

Ford.—Wheat harvest will begin about the 1st; the crop is fine; oats, barley and corn, condition 100; fine weather for haying our very large crop of alfalfa.

Gove.—A week of uninterrupted sunshine, hot and windy; getting dry; nothing suffering yet, but will soon need rain; barley and oats beginning to head.

Gray.—A very warm week; all crops look well, but should dry weather continue, late wheat will be injured; alfalfa haying is being pushed.

Greeley.—A dry week—one more such and crops will suffer; grass in good condition; stock doing finely.

Hamilton.—All crops growing rapidly; where there is a stand of wheat it looks fine.

Kearny.—Fine growing weather; crops doing finely; late wheat heading in good condition; this county will have apples and peaches to ship; wool clip still being marketed.

Logan.—Slendid growing week; alfalfa cut; corn laid by; rye will be cut next week, possibly some wheat; barley and oats looking fine; some complaint of black rust.

Meade.—Wheat, rye, barley and alfalfa very fine; wheat harvest will begin next week; corn unusually fine.

Morton.—Dry and windy; forage crops coming on well.

Ness.—Dry, windy weather has injured late wheat and barley some; barley and rye harvest next week; corn looks fine; forage crops all in; bugs and worms have come with the dry weather, threatening the potato crop some.

Scott.—Dry, hot weather is injuring small grain of every description, and if rain does not come soon it will greatly reduce the wheat crop; barley and oats falling badly; outlook very unfavorable.

Sherman.—A good growing week, and much work done in the corn fields killing weeds; wheat, oats and barley are heading; rye nearly ready to cut; all promise good yields; forage crops doing well.

Thomas.—Some rye ready to cut next week; wheat, barley and oats headed; corn is doing well and growing fast; fine weather for alfalfa haying; getting dry for late wheat.

Trego.—A dry, hot week; cultivation of corn being pushed in view of the wheat harvest; some binders may commence next week, but no headers.

Live Stock Premiums.

Editor Kansas Farmer:—There has been tendered to the Trans-Mississippi authorities in sums to be offered as special premiums aggregating up to this time to \$9,733. We have been unofficially informed that there are some others to be offered, which will swing the total to something like nearly \$11,000. It is distributed thus:

CATTLE.

Short-horns	\$2,050
Herefords	3,000
Angus	200
Galloway	1,068
Jerseys	600
Holsteins	360
(They duplicate the grand sweepstakes by ages, if won by an Angus.)	

SHEEP.

Shropshire	605
Hampshires	150
Cotswold	300
Oxford	350
Continental Dorset Club	50
The Union Stock Yards Company, South Omaha	1,000
Special prizes distributed between cattle, sheep and swine.	

Will you kindly give this such publicity as the interests of live stock demand. The premiums offered by the exposition in the live stock department amount to \$35,000. This, with the special premiums, brings the amount to be competed for well toward \$50,000.

I will mail to you the first copies of the premium list received from the printer. This morning they assured me it would not be later than the first of the week. I shall appear at the office every day from now on, Sundays excepted, until I receive the lists. The correspondence which I am receiving would lead me to the belief that we shall have a large live stock display, possibly equal to that of the Columbian exposition. I sometimes say even greater than that great show.

Respectfully yours,

JOHN B. DINSMORE,

Com. Live Stock, Dairy and Poultry, Omaha, Neb., June 24, 1898.

Gossip About Stock.

Any one desiring a profitable agency will do well to write to Jas. M. Sears & Co., Salem, Ohio, asking for particulars. They manufacture an article needed by every farmer in the United States. See their advertisement in this issue of Kansas Farmer.

D. L. Bartlett, Jr., of St. Joseph, Mo.,



There are weeds in every body's garden, and no garden was ever planted in which weeds did not insolently present themselves. They come without invitation and without a welcome. If you recognize them as weeds, and if you have sense enough to know that weeds choke flowers, and pull the weeds up, root and branch, you will save the flowers.

There are weeds in the health-garden of many a man and woman. The doctors call them disease germs. If you have sense enough to distinguish them from the flowers of health, and root them out, you will be robust, healthy and happy. The most dangerous of all the weeds in the flower garden of health is that deadly creeper consumption.

There has never been but one medicine that would choke out this weed, root and all. That medicine is Dr. Pierce's Golden Medical Discovery. It acts directly on the lungs through the blood, driving out all impurities and disease germs, and building up new and healthy tissue. It restores the lost appetite, makes digestion and assimilation perfect, invigorates the liver, purifies the blood and fills it with the life-giving elements of the food and tones and builds up the nerves. It sustains the action of the heart and deepens the breathing, supplying the blood with life-giving oxygen. Medicine dealers sell it.

"A doctor, who is considered an expert on lung troubles, told me I had consumption and could not live long," writes Mrs. James Gaffield, 77 Mary Street, Hamilton, Ont., Can. "Three bottles of Dr. Pierce's Golden Medical Discovery cured me completely."

Free. Dr. Pierce's Common Sense Medical Adviser. Send 21 one-cent stamps to cover mailing only for paper-bound copy. Cloth-bound 31 cents. Address Dr. R. V. Pierce, Buffalo, N. Y.

proprietor of Rose Creek farm, Chester, Neb., has just returned from the farm, where he spent a week inspecting the stock and crops, and reports everything in prosperous condition. He speaks in the highest terms of his new herdsman, Mr. Hiram Woodford, who has been in charge since last December. Ninety head of spring pigs have grown astonishingly. A visiting breeder recently pronounced them the "best bunch of pigs he ever saw." The herd now numbers exactly 150 head, all ages. To avoid crowding, Mr. Woodford is offering spring pigs of February and March farrow, weighing about 120 pounds, for immediate sale at reduced price. Read the "special offer" in their regular advertisement and rest assured of fair treatment if you order anything from Rose Creek farm.

A Strong Testimonial.

Mehoopany, Pa., Jan. 20, 1898.

Dr. S. A. Tuttle, 27 Beverly St., Boston, Mass.:

Dear Sir—I was much pleased with the last half-dozen bottles of your medicine, Tuttle's Elixir, sent me, as I have received great benefit from it.

About a year ago one of a young, well-matched team that I own ran off a horse power and caught her toe in the machine, bruising it and straining the cords. For eight weeks I could not use her, and from that time on, until I got your Tuttle's Elixir, she was so lame that she could not be driven on the road at all.

I had tried Kendall's Spavin Cure and other things, and spent many dollars for trash, with no good result. I finally gave up all hope of curing the animal at all, and thought she was not worth a dollar.

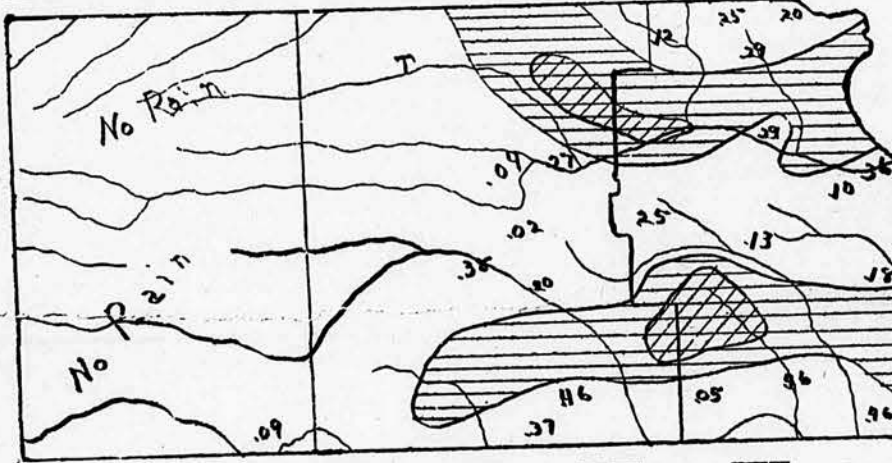
I saw your advertisement and made up my mind that I would try Tuttle's Elixir, as I could not tell where the trouble lay. Some would say it was a spavin and others the cords; one would say that it was in this place, and another in that.

Some claimed that Tuttle's Elixir would locate the trouble, and it did. I used one 50-cent bottle and her leg is as well as ever. I have let others try it, and it has helped every time it has been used.

I see that you have no agent here, and I write to know if I may have the privilege of selling Tuttle's Elixir, and on what terms. I am a farmer and cannot travel much with it, but think it will sell. I have sold four bottles of Tuttle's Horse Elixir, and it has given satisfaction.

Yours truly,

JUSTUS M. SMITH.



ACTUAL RAINFALL FOR WEEK ENDING JUNE 25, 1898.

in north half for harvesting; wheat about 80 per cent. cut; oats injured by rust; corn weedy.

Coffey.—Much work accomplished this week; the larger part of the corn now laid by; wheat harvest nearly through; some oats being cut, giving promise of good yield; flax in good condition; grass very good.

Douglas.—A good working week, well improved by harvesting, haying and corn plowing; ground drying rapidly and getting very hard; chinch bugs bad on corn in localities; rust and chinch bugs injuring oats.

Doniphan.—A dry, growing week; wheat about one-fourth in shock; oats and corn are doing finely; fruit a fair prospect; potatoes good; much wheat damaged.

Elk.—A good week for all farm work; corn mostly laid by, early planted tasseling.

Greenwood.—Corn doing well; wheat harvested, not as good as anticipated; early apples on the market; gardens in good condition.

Jefferson.—Fine week for farm work, ending with a good rain; corn is being well cleaned; wheat and oats damaged by rust; grass fine.

Johnson.—Wheat harvest begun, some pieces very good, others will not be cut; corn being neglected for the harvest; pasture good and stock in fine condition; horn flies becoming numerous.

Labette.—The wheat worth cutting is nearly all cut, a very large per cent. of the crop was damaged by rust and rain; corn doing fairly well, most of it needing work badly; oats fair; a good shower is needed.

Leavenworth.—A good week for farm work; some head blight on wheat; oats fair to good; corn growing rapidly; meadows looking finely; pastures fair.

Lyon.—Very favorable week for growth of corn; rust will take a large per cent. of the wheat crop; apples and peaches will be scarce.

Marshall.—Good week for corn and its cultivation; in northeastern part about one-fourth of the wheat heads have turned white and wilted.

Morris.—The best week for crops this season; corn pretty well cleaned; wheat harvest in full blast, but the wheat is rather light.

Neosho.—Wheat harvest in progress, poor yield—damaged by rust and fly; corn fields being well cleaned, crop in fine condition; home-grown blackberries on the market; grass and hay fine; oats harvest will begin next week.

Osage.—A good week for work; corn growing rapidly, some being laid by; some haying being done, a large crop indicated; apples scarce and falling badly; black-

Sheep Department.

Conducted by J. CLARENCE NORTON, Moran, Kas., to whom all letters should be addressed.

Confining the Ram.

A friend writes and says he is tired keeping his ram up and asks why he can't be turned out with the flock.

When any one writes on the sheep subject he always says the ram must be kept up away from the flock, and when the breeding season arrives he should be well fed and turned out with the ewes only at night.

I have followed this plan for several years and I am free to admit that to keep the ram up is a great bother, and in many cases the ram is injured by overfeed, lack of change of feed and lack of exercise.

As I am a wonderful hand to experiment, I decided to try some other plan, so last year while shearing and after all the ewes had quit dropping lambs I turned the ram loose with the ewes and paid no more attention to him until about a month before the usual time for the lambs to begin to come, say about Christmas, and the plan succeeded so well that I have given him the run of the flock again this year.

Now this may be all wrong, and I may live to regret it, but up to the present time I must say that it has proven entirely satisfactory.

I culled my flock early in September, 1897, selling all the ewes I did not want to winter, and I do not know whether any of them had fall lambs or not, while those I kept did not begin to lamb any

May and both the sheared and woolled lambs suffered from the cold and wet.

The lambs were shipped together to Chicago a month after shearing. The shorn lambs sold for \$5.30 per hundred-weight, and the woolled lambs for \$5.75. This difference of 45 cents between the woolled and the shorn is as favorable to the shorn lambs as could be expected. The lambs were weighed individually at the time of shearing, again just before shipping, and also in Chicago when sold. The wool of each was weighed separately, so that we have the full records for determining the financial results of the shearing. The wool has not yet been sold, but others around here who sheared this spring sold their wool for 12 cents a pound, and this price is used in the computations. The lambs sheared 3.8 pounds of wool each, giving them a credit for the wool of 45 cents. They did not grow so fast after shearing as those that kept their wool. They did not make so good a fill at the market—that is, they shrank more from Fort Collins to Chicago than the woolled lambs, and they sold in Chicago for a less price. There are, therefore, three items to offset the credit for wool.

The sheared sheep gained in weight during the month after the shearing 2.6 pounds less than the woolled lambs; they shrank 1.6 pounds more in shipping and sold for 45 cents per hundred-weight less than the woolled lambs. The effect of these three items is 75 cents a head; that is, the shorn lambs sold in Chicago for 75 cents a head less than they would have sold for had they not been sheared. Against this there is an offset of 45 cents for wool, making a net loss of 30 cents a head as the result

Cuba's Natural Wealth.

Few persons have any conception of the vast riches and resources of Cuba. When the war is ended and good government is established upon that island many avenues will be opened for making money. New industries will spring up, and those that have been paralyzed for the past two years will be resumed with renewed vigor. No country presents such a variety of promising opportunities.

The tobacco industry, which has been stayed so long, will be resumed once more, and smokers will again revel in the fragrant weed of Cuba. The famous Havana tobacco is produced on the extreme west end of the southern coast, on a strip of land called the Vuelta Abajo.

Next in value to the Havana tobacco is that grown from an area of fifty-four miles, called the Mayari.

The silk industry has never attained much prominence, but authorities claim that it is the lead country in which to grow the silk worm. The mulberry tree, on which the silk worm flourishes to well, grows to perfection there.

Although production of sugar from the cane is not so profitable as in the past, and many doubt whether it will be able to compete with the low prices of beet root sugar, there will always be certain productions of the sugar cane that can never be substituted.

Almost everything that the planter needs in the way of food can be raised on the plantation. Coffee, another product that has not been grown much for some years, will doubtless be made profitable under civilization. The quantity of cocoa that can be grown on an acre of ground is something wonderful. The lowlands are practically adapted to the production of rice. Corn, sugo, yuca, indigo and cotton are among some of the other products. All the fruits to be found in tropical climates grow in Cuba and furnish the inhabitants with every delicacy in this line.

Gold is found in small quantities in many of the rivers, and silver, iron, copper and quicksilver have been mined, though not profitably. Asphalt, in all its various forms, from the liquid to the crystal, can be found in many parts of the island. This

ward the close, when they strained every nerve to dismay and overcome the already exhausted, but still unflinching garrison. More than 50,000 troops and 170 pieces of ordnance of large caliber were at the disposal of the Spanish general, and the ingenious type of floating batteries strongly resembling the famous "cheese-boxes on rafts" of the late war, had been devised by the Dons, who expected great things of them in the meditated assault. The numbers of the opposing forces were ludicrously disproportionate. Besides the above-mentioned troops and guns, the Spanish possessed nine line of battle ships, fifteen gun or mortar boats, sufficient to land nearly 40,000 men, and, in addition, the ten floating batteries, which consisted of large vessels, their sides protected by a banking of timber seven feet thick, and the decks and guns screened with a slanting roof of shot-proof material. To this gigantic armament the defense could only oppose some 7,000 men, many of them sick or wounded, and all reduced to scanty rations for many months past, ammunition was limited and the cannon even then was antiquated. On the 8th of September, 1872, fire was opened on the fortress, at a preconcerted signal, by the entire strength of the Spanish artillery, both on land and afloat. The "floating batteries" were moored within half range and proved indeed invulnerable to shot and shell, which lasted all night and day until late on the 12th. On that day the garrison, unable to make an impression on the fleet, whose efforts were beginning to give the small force of defenders considerable trouble and inconvenience, conceived the brilliant idea of loading their guns with red-hot shot and burning shells, which, though of little or no penetrating power, turned out to be very effective against the wooden sides of the battleships and gunboats; in fact, within a very few hours every one of the floating batteries lay perfectly quiescent on the water, a useless mass of burning hulks.

The endeavors and energies of the defenders finally prevailed over the vast numerical superiority of their opponents, and on the 14th of the month the desperately conducted attack was given up and the Spanish troops retired to their lines, severely crippled by the enormous losses they had suffered; winter quarters were taken up, the bombardment practically abandoned and peace was declared on the 2d of February following. Thus ended the most remarkable siege that can be found on the pages of history; remarkable for many reasons, but most of all for the small loss of life among the defenders, who, during the three years and a half that the investment lasted, lost in all but 500 men, while they inflicted on the enemy a total loss of several thousand lives. Gibraltar to-day simply bristles with artillery; the mountain is honeycombed with passages and galleries leading to remotely hidden batteries, some the result of nature's workings, but most of them excavated by years of arduous toil in the very bowels of the gigantic rock.

Inverted Patriotism.

Dudler is intensely patriotic. His friends have been aware of this for some time, so when he purchased a large flag and proceeded to raise it over his house, they were not surprised.

It was dark before Dudler succeeded in getting everything ready and the flag hoisted, and with the remark that there would be a surprise in the neighborhood when the morning dawned, he went inside.

But it was Dudler who was surprised on the following morning. When he stepped out upon his porch he found that every window in the neighborhood had an angry occupant. Even the old maid who lived next door had drawn her lace curtains aside, and when Dudler appeared shook her fist at him.

"I'll move out of this neighborhood as soon as I can find another house," muttered Dudler to himself, "I won't live in such a nest of Spanish sympathizers."

Then a stranger came along, looked up at the flag and immediately pulled off his coat and wanted to fight Dudler.

What the outcome would have been is a matter of speculation, for at this point a policeman arrived on the scene, gave one look at the flag and ordered Dudler to haul it down.

"W-h-a-t?" gasped Dudler.

"Take it down," ordered the policeman, "or I'll run you in."

This was too much. Dudler was proceeding to pull off his coat, preparatory to fighting the whole police force, when he stopped long enough to take one look at the beloved flag he was about to defend. Then he wilted. Old Glory was upside down!

Dudler apologized, righted his beloved flag, and peace reigned once more in the neighborhood.—Detroit Free Press.

Notice to Breeders.

Every Kansas breeder of improved stock who expects to exhibit at any of the fairs or the Trans-Mississippi exposition at Omaha, is requested to send particulars at once to H. A. Heath, Secretary Kansas Improved Stock Breeders' Association, Topeka, Kas.

When churning proceeds too rapidly as a result of too high temperature, only part of the fat is solidified and the balance, or part of it, is incorporated with it in an oily state; hence the reason why such butter is always soft and greasy.

Thoughtlessness is often the source of much pain or discomfort to animals.



NEGRO FAMILY, OLD AND YOUNG, PICKING COTTON, GERMANTOWN, ARK.

From a photographic view taken along the line of the Missouri Pacific Railway.

earlier than usual, or about January 1st. The ram does not seem to worry the ewes any and he keeps fat and vigorous on grass and is no trouble at all, while before he was a constant source of trouble and care.

Now I know many will hold up their hands in horror at this slackness of the editor of the "Sheep Department," but just so long as I am the gainer by this plan and the cost of production is thus lessened and no harm results from it, so long will I keep it up. Under these circumstances it demands some grit to openly confess that one has adopted such a slack plan of keeping the ram, but so far I have been the gainer by it.

Experiment With Sheared Lambs.

For the past three years several of the feeders in the Fort Collins district have sheared part of their lambs before sending them to market. No one has been able to see much profit in the transaction and several have known that it occasioned them considerable loss. Yet each year it is believed that the prices are such as to warrant shearing. We have not previously sheared our lambs at the Agricultural College because the prospects of gain thereby were so small. This year, yielding to the requests of several feeders, we made an experiment to see just what the comparative results are of sheared and woolled lambs. A bunch of 120 lambs was selected; sixty were sheared April 26 and the other sixty left unsheared. The feed of both lots was the same as they ran together in the same corrals. The season was not the best for sheared lambs, as it will be remembered that there was a long continued snow storm the first week in

of shearing. In the foregoing statement two items have been taken into account—the cost of the shearing and the decreased cost of the freight to Chicago, because more shorn can be shipped to the car than of woolled lambs. These two items are on opposite sides and will just about balance, so that the result would not be changed if both these items were considered. These results show that, at least in our case, the shearing of the lambs was not only of no advantage, but was a positive loss.—W. W. Cooke.

In one of the sheep articles read at the Improved Stock Breeders' meeting at Topeka last winter the writer of the article asked if any flockmaster had had any experience in feeding shredded fodder to sheep. I have never known this question to be answered. Can any one of our readers answer it? Shall I have to experiment in that line to solve the question?

One Fare for Round Trip—Santa Fe Route—to Portland, Ore.

The Tenth Triennial National Council of Congregational churches will be held in Portland, Ore., July 7-12, 1898. The rate for ticket from Topeka to Portland and return is \$60. Tickets will be on sale June 30 and July 1, 1898, and will be limited to August 31, 1898.

These tickets admit of stop-over in certain places, and furnish the means of cheap traveling to California and other Pacific coast points.

Apply to W. C. Garvey, agent A., T. & S. F. Ry., Topeka, Kas., for particulars.

will be one of the largest industries there within a short time. In some places petroleum runs out of the rents in the rocks, and abundant springs of it are to be found in the eastern part. Mineral springs, scattered all over the island, possess splendid medicinal qualities.

Some of the finest hard woods are to be found in the forests, such as the quiebra hacha (the ax breaker), which for the manufacture of fine furniture is unexcelled. It was from the lumber of the forests of Cuba that the famous marquetry work in the apartments of the Escorial was made by Philip II. The accessibility of the forests from shipping ports will give a decided advantage over countries like San Domingo.

About 200 harbors can be developed on the coast of Cuba, and this will give it an advantage for the shipping facilities that no other country possesses.

Siege of Gibraltar.

Undoubtedly the most interesting story of siege and bombardment in the annals of warfare since cannon were first invented, says the St. Paul Dispatch, is that of the unsuccessful attempt of Spain to regain in 1779 the fortress of Gibraltar, which England had taken by storm a few years before. For three years and seven months the stronghold was invested by a large force of all arms, and a practically uninterrupted fire from 135 guns, including some fifty mortars of thirteen-inch caliber, was maintained from January 12, 1780, till February 2, 1783. Meanwhile the gallant little garrison was but once relieved and suffered all the pangs of starvation, not unmingled sometimes with a feeling of despair; still they clung to the gigantic rock, repelling attack after attack with indomitable courage and endurance and inflicting enormous losses on their opponents. The latter, indeed, are deserving of praise for the pertinacity and perseverance with which they returned to the fray time after time, undaunted by continual reverses, and hopeful ever to retrieve the disgrace which they considered the presence of the hated "infidels" put upon them.

The most interesting and exciting episode during this long siege was the ferocious attempt made by the Spaniards to

The Home Circle.

A PARSON'S PLEASURE GROUND.

I have a garden filled with sound
Of thrushes; paths that circle round;
And one straight walk more sweetly set
With lavender and mignonette,
Sweet herbs of grass, whose scent lives on
Like virtue, after life is gone;
My sanctuary, for so I call
That long straight path beneath the wall.

There do I muse—how Nature's self
Moves upward; how, from shelf to shelf,
Ennobled through perpetual strife,
She issues in a grander life.
And as I think how one small bud
Engrafted tames the wildest wood,
Sweet fruitage for man's use to bear,
And of its sweetness leave an heir;
Seems it—ah, may my faith be true—
Grace has its power in Nature, too.
'Tis grace that lurks in kindly soil;
'Tis grace attends the tiller's toil;
Grace works in every flower that blows,
And in each briar there lives a rose.

Thus as I ponder, lo! a knell
Comes o'er me; 'tis the passing bell.
Then think I of—beneath the sod—
Those sleeping: Are they all with God?
That one so willful? This who died
In passion's youth unsanctified?
Can God accept them? Can he prove
To those who loved not, God of love?
I know not. But beneath this wall,
Hearing the glad-voiced thrushes call
On my straight path so sweetly set
With lavender and mignonette,
I think, if we poor men below
Can of such wildness beauty grow,
Sure, he hath better means to try,
That mightier gardener in the sky,
Who, while brief life our work doth end,
Hath all of time his work to mend;
Unnumbered worlds beyond our ken;
Fresh soil for souls, fresh chance for men;
Angels of love to graft his grace;
Perchance, O, heaven! to see his face.

And then I thought—as in the trees
Life murmured with the quickening breeze—
Sadly I thought, not they alone
Were sinners; half the sin my own.
Had I more faithful preached the Word,
Perchance they might have better heard;
Have risen on wings, and out of clay
Uplifted, soared to heavenly day.
So trust I God will not condemn
Those who not him, but man condemn.

—London Spectator.

BIG AND LITTLE CONGRESSMEN.

"Back home," audibly mused a reflective Congressman from Iowa, "I'm a good deal of a citizen. As I navigate around my district I am made to feel—although my stature is really not above the average—that I tower eight or ten inches over any other man within sight or hearing. I hold my head well up and my shoulders well back, and perhaps I do occasionally practice an acquired in the national halls of legislation mannerism upon those of my constituents who did not know me too far back, before I became great and famous. When I do, it goes. The men in my district like to be seen shaking hands with me and conversing with me. The ladies in my district like to be given the opportunity to play me with cake and home-made wine. The small boys in my district exhibit various evidences of their knowledge of the fact that I am illustrious—chiefly by bolting whenever I heave in sight, thus depriving me of the opportunity to pat them upon their heads and tell them what fine big boys they are, when their mothers are peering through the blind slats. Even the disowned, nomadic yaller dogs in my district seem to abjure mid-street belligerence when they see me coming. When I make a half-a-day trip across a county line, the hand-printed newspapers chronicle the fact next to reading matter, and when I break away as much as a hundred miles from my district I am interviewed to the extent of as much as three double-leaded columns upon my return.

"When I go to the op'ry house the orchestra plays 'Hail to the Chief' when the leader catches sight of me. When I go to church on Sunday morning with my family, everybody, including the preacher, sizes up the cut of my jib in the most deferential manner. And when I depart from my district for Washington all of my constituents gather around me and assure me that they feel certain that the destinies of the nation will be safe in my hands, and that the government at Washington will cleave unto its old-time habit of living.

"But when I reach Washington it's all different. I don't tower in Washington. I don't loom. There's any number of plastered-hair pages that seem to be a heap taller than I am, figuratively speaking. I find that I become a bit round-shouldered during a session of Congress from trying to carry myself in a sufficiently humble way to make it clear to Washington people that I really don't regard myself as anything particularly stupendous. I saw the President walking through Lafayette square a while back. Hardly anybody in the square turned around to look after him. What show, therefore, have I got to get people to turn around to look after

me? Not one man in a thousand in Washington knows that I am alive. The only Washington individual who regards me as anybody out of the ordinary is the landlady of my boarding house. She furnishes me with plenty of towels, and when people apply at her house for board she always makes reference to 'her member.' I am grateful to my landlady for her consideration. I ordered a suit of clothes at a tailor shop the other day. I happened to have left my wallet in my room, and had not the money necessary to pay a deposit on my suit with me. 'But I am a member of Congress,' said I to the tailor. The tailor smiled. He didn't say that that was all the more reason why I should be required to make double the usual deposit, but he didn't put scissors to the suit till I had paid the deposit. I opened an account at a bank here last week. I told the man at the window who I was. 'But you'll have to be identified,' said he, and I did. Whenever I am introduced to a Washington man he inquires, sotto voce, of the introducer, 'What State's he from?' If I don't understand the full, esoteric meaning of the phrase, 'There are others,' I'd like to know who does, that's all."—Washington Post.

Sleeping in a Hammock.

"I see they say that soldiers in Cuba ought to sleep in hammocks for their health's sake," said a veteran of the Civil war. "I never slept in a hammock but once, and that was when I was in the army at the time of the Civil war. But my purpose in sleeping in a hammock was not to guard against malaria or dampness or anything of that sort, because we were at that time in a settled camp that was tolerably salubrious, and where we had beds raised off the ground, made of barrel staves, cracker box covers, and one thing and another; my hammock was solely for comfort. It was very hot in the tent, and I thought I might be a little cooler in a hammock, and made one myself out of a blanket.

"There was plenty of wood around where we were then, and we, that is, the folks in our tent, had set up a couple of tall, stout posts about six feet apart alongside of our tent and strung a line between them to hang our washing on. I used these two posts for hammock posts. I took down the clothesline and tied a piece of good, stout cord around each end of my blanket, leaving plenty of end on each, and then I made these ropes fast securely around the posts, pretty well up, and then I was all right; all I had to do was to get in and go to sleep.

"But I had the greatest time getting into that hammock you ever heard of, and I thought before I got in that I should kick in the side of the tent and wake up everybody; but I didn't, and finally I managed to get over into it. I had no spreaders and no pillow to spread it out, and I found it crowded me very hard head and foot, and it sagged down in the middle like a bag. It was the first time I'd ever been in a hammock, and it was about as uncomfortable as could be. I suppose that was due largely to the hammock itself, or the way it was slung, for there must be such a thing as a comfortable hammock, because there's plenty of men that sleep in hammocks every night and like 'em, and find it hard work to get used to beds again at first when they go ashore, but I found it hard work to get used to my hammock, and there was one thing I hadn't counted on at all, and that was the mosquitoes. They were bad enough in the tent, but out here they had free approach from all directions, and the blanket was just no impediment to them at all; it didn't even bend their beaks; nothing short of a sheet-iron or wooden blanket could have kept them out.

"But I sort of felt, as a matter of pride, that I ought to stick it out, and I did. I covered up my head and pretty soon I went to sleep, hanging there between the two posts. But I didn't stay there all night. Along some time in the morning, when it was still pitch dark and the whole camp was very still, I dreamed I heard a dull thud and woke up and found my feet still up in the air but my shoulders on the ground. The rope at the head end of the hammock had parted and let my head drop to the ground.

"I didn't put the hammock back. I took down the other end and put the clothesline back on the posts and crept into the tent quietly and lay down on my barrel staves. After trying the hammock I found the bed more comfortable."—New York Sun.

War is like a conflagration, once started no man knows what it will consume before it ends.

GOLD DUST

THE BEST WASHING POWDER

Written for Kansas Farmer.

Snakes.

"No," said the Professor, in response to my query, as he leaned back in his office chair, "all snakes are not poisonous; in fact, only three of the kinds we have around here are. But I suppose that to the popular mind all snakes look alike, and the poor harmless fellows must suffer alike with their wicked brethren whom they resemble. Take the spread-head, or blowing viper, or hog-nosed adder, as he is variously called. A more harmless snake never existed, yet there is not a 'rattler' in the country that will put up a heavier bluff or show more fight than he will. He looks mean, too, with his triangular head (usually a character found only in venomous snakes) and his peculiar manner of spreading out the loose skin on his neck. Get him to fighting, and with his tail humming against a dry weed you will think you've got a 'rattler,' sure thing."

"Why, Professor, I always thought that they were worse than rattlesnakes. The old farmers always said they were, and they fought lots harder."

"Yes, I know they look it, but they haven't a fang in their head, and can't even draw blood with their little needle-point teeth unless you jerk away as they strike. But come out into the other room and look at one. I think the boys have one or two this year."

The Professor led the way into what the students call his "snake cage," where I found a number of boys and girls watching the live snakes slowly crawling around in their prisons.

"Where did you get so many?" I asked, "and how do you feed them?"

"Well, the boys brought in all of these in the last three months; and as far as feeding goes, they can live all right in here for months without food. Last year we kept a six-foot bullsnake for ten months without any feed, and she was lively enough when we killed her. Now, here's your 'spread-head,'" said our guide, approaching a cage and pulling out with his bare hand as vicious a looking snake as one would care to meet anywhere. "Come over and look at the difference between him and this rattlesnake," as he crossed the room to another cage with a big "Danger" sign stuck up on the door. Inside lay a big four-foot rattlesnake, still and motionless—except for his wicked eyes and black, forked tongue I would have said that he was dead.

"Now, first look at the pupils of the two snakes' eyes—see, the 'rattler' has a narrow vertical slit in the iris, while the spread-head has ordinary round pupils. The vertical pupil is a character found in all snakes that strike their prey instead of crushing it. It is also found in many if not all of the members of the cat family, and wherever you find 'cat's eyes' you may feel sure of an assassin. Beside this, the poisonous snakes around here—the moccasin, copperhead and different kinds of rattlesnakes—all agree in having broadly triangular heads which are covered with scales instead of plates. Also, there is what we call the pre-orbital pit between the eye and nostril and slightly below. Then, too, the venomous snake is more heavily built, with a shorter tail, and always sluggish. Of course, though, the fangs are the primary distinction.

"No, all snakes are not poisonous, and the best way to do unless you know your snake or can make a close examination of his features, is to let him strictly alone; or, if you are feeling particularly bloodthirsty, kill him and run the risk of shedding innocent blood. But, excluding the danger to mankind, all snakes are very useful. The number of mice and other pests annually destroyed by the snakes of this land can hardly

be estimated. A snake in a wheat field is worth dollars cash down to the very farmer who treats it as if it was his worst foe. Well, there goes the gong for my class. Come around to-morrow and see them eat their weekly meal."

As I left the room it was deeply impressed on my mind that the Professor's talk had given my ideas about the Biblical instructions to bruise the serpent's head a strong knock-out blow. N.

Morro as a Fort's Name.

The word Morro, as applied to the forts in Cuba, has confused many persons who were surprised to learn of the existence of several of them with this name. The word is one little used by Cubans. Its use on the island is confined almost exclusively to the Spaniards. In the dictionary "morro" is defined as "anything that is round," or "a prominent overhanging lip." The Spaniards always describe a negro mouth as "morro" from its projecting lips. The word is also applied to a cat, but in this sense it is taken to refer to the purring of the animal, says the New York Sun. When applied to the castles or fortresses in Cuba the word is to be taken in the same significance. It possesses when applied to a negro's mouth. These defenses are usually perched on heights, over which they project just as protruding lips do. The word is always spelled with two r's. The word moro is said to mean "Moorish, belonging to the Moors." In a jocular style it is applied to wine not mixed with water. It also means as a noun a Moor or native of Africa. It is also used in Cuba to designate a particular kind of horse collar.

Wonderful Memories.

Scallger, the philologist of the sixteenth century, who edited several of the classics, was so certain of his memory that he undertook to repeat long passages from Latin works with a dagger at his breast, which was to be used against him in the event of his memory failing, while Seneca, the tutor of Nero, could repeat two thousand words exactly as he heard them. Pope could turn at once to any passage which had struck him when reading, and Leyden, the Scottish poet, who died in the early part of the century, was also remarkable for his memory. When congratulated on one occasion upon his aptitude for remembering things, Leyden replied that he often found his memory a source of inconvenience. Surprise was expressed at this, whereupon the poet replied that he often wished to recall a particular passage, but could not do so until he had repeated the whole poem from the beginning to where the passage occurred which he wished to recall.

Leyden is also credited for having been able to repeat an act of Parliament, or a lengthy legal document after having heard it once. The newspapers of January, 1820, contain frequent allusions to the case of a man named Thompson, who drew plans of a dozen London parishes, including every church, chapel, yard, court, monument, lamp-post and innumerable trees and pumps, without reference to a single book, and without asking a single question, and an English clergyman mentions a man of weak intellect who lived about the same time, who could remember the names and ages of every man, woman and child who had been buried in the parish during thirty-five years, together with the dates of burial and the names of the mourners present at the funeral. That great memories are not the produce of civilization is proved by an instance recorded by Dr. Moffatt, the great African missionary. Dr. Moffatt once preached a sermon to a group of negroes, and was shortly afterward attracted by the gesticulations of a young savage addressing a number of blacks. On going up to the group, he was amazed to hear the savage reproducing his own sermon, word for word.—London Standard

The victory rests with America's greatest medicine, Hood's Sarsaparilla, when it battles against any disease caused or promoted by impure or impoverished blood.

Hood's Pills are the favorite family cathartic. Easy to take, easy to operate.

The Young Folks.

THE AMERICAN FLAG.

When Freedom, from her mountain height
Unfurled her standard to the air
She tore the azure robe of night
And set the stars of glory there.
She mingled with its gorgeous dyes
The milky baldric of the skies,
And striped its pure, celestial white,
With streakings of the morning light;
Then, from his mansion in the sun,
She called her eagle bearer down,
And gave into his mighty hand
The symbol of her chosen land.

Flag of the brave! thy folds shall fly
The sign of hope and triumph high,
When speaks the signal trumpet tone,
And the long line comes gleaming on.
Ere yet the life-blood, warm and wet,
Has dimmed the glistening bayonet,
Each soldier eye shall brightly turn
To where thy sky-born glories burn;
And, as his springing steps advance,
Catch war and vengeance from the glance,
And when the cannon-mouthings loud
Heave in wild wreaths the battle-shroud,
And gory sabers rise and fall
Like shoots of flame on midnight's pall;
Then shall thy meteor glances glow,
And cowering foes shall sink beneath
Each gallant arm that strikes below
That lovely messenger of death.

Flag of the seas! on ocean wave
Thy stars shall glitter o'er the brave;
When death, careering on the gale,
Sweeps darkly round the belled sail,
And frightened waves rush wildly back
Before the broadside's reeling rack,
Each dying wanderer of the sea
Shall look at once to heaven and thee,
And smile to see thy splendors fly
In triumph o'er his closing eye.
Flag of the free heart's hope and home!
By angel hand lit the welkin dome,
Thy stars have lit the welkin dome,
And all thy hues were born in heaven.
Forever float that standard sheet!
Where breathes the foe but falls before
us,
With Freedom's soil beneath our feet,
And Freedom's banner streaming o'er us?
—Joseph Rodman Drake.

Written for Kansas Farmer.

YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 27.

PFINGSTEN HOLIDAY.

The German people are very religious—that is, so far as the observance of holy days are concerned. Pentecost—Whitsuntide—Pfingsten is a very holy day, and it occurs seven weeks (the forty-ninth day) after Easter Sunday. The Germans remember this day and look forward to it as a very pleasant holiday. Three days are usually devoted to the purpose of properly celebrating Pfingsten, and excursions are arranged for visiting all parts of the country. No work but lots of play and recreation may be indulged in, and sometimes religious exercises.

Our Kansas party was made aware of the celebration by being informed that an excursion train would leave on the morning of May 28 for Dresden, 115 miles southeast of Berlin. We wanted to visit Dresden and this was a good opportunity, for it would be dressed in gay clothes for the Pfingsten holiday. Tickets costing 7 marks, 50 pfennigs (\$1.87) for the round trip would be good for a whole week. I mention the price to be compared with excursion prices in America.

"Our crowd" had been recently increased by two gentlemen from Topeka and we were able to get a compartment in one of the cars for ourselves. We found a throng of people waiting at the gates of Anhalter Bahnhof (station) at 7 o'clock in the morning, all eager to get into the cars to secure a good seat for the trip. There was not the amount of crowding and pushing that a similar gathering would indulge in in America, as Germans are educated not to feel that the very best places belong to the ones who can push hardest, and I must record the fact that on the arrival of our party we were politely permitted to pass through the gates first.

We were congratulating ourselves on the fact of having a whole "coupe" to ourselves when just before the train started two more—a young man and young woman—were assigned to our compartment, as the crowd was too great for the twenty-three carriages provided for that train; and there were other trains starting out for other destinations equally crowded. Our new friends were an "engaged couple." We knew this after a while, for we observed that one chew of gum was sufficient for both, a sample of economy which has objectionable features. They chewed and were happy; no one else had a right to object.

The German excursion cars will not compare favorably with American accommodations; while the price is all right, the conveniences are very inferior. So far, my experience has not made me enthusiastic for the "government ownership of railways."

The day was beautiful and all out-

doors was at its very best. Beautiful farms and wooded tracts were to be seen along the whole route. The land is low-lying and the farmers have to provide an expensive system of drainage to make farming possible. We passed very large tracts of young forest, which we were told had been planted in the sandy places to make parks for royalty. We noticed a great number of small rye fields, not over 100 feet wide by possibly a quarter of a mile long, but the grain looked excellent, as the season has been most favorable for farming operations.

The first stopping place was one hour out from Berlin. Here a halt was made for refreshments. We took no refreshments at this place, as they were not suited for Kansas appetites. A great rush was made for the refreshment stands; the principal and only kind dispensed was beer. We looked on. Twenty pfennigs was the price we heard announced at the beginning, but business was so good that soon the price was raised to thirty pfennigs, then to forty, all within the first five minutes. Great big glasses of foaming beer were carried to the carriages, where the happy ones took plenty of time to drink it, for the glasses are collected at the next station and shipped back.

Again in motion, we were enjoying the scenery along the route. Our engaged friends began to eat their lunch; the principal article was cheese; we knew it was Dutch cheese, although we were looking out of doors! We would have recognized that cheese if it had been as dark as Egypt. My German blood would naturally extend sympathy to that cheese, but on account of its great strength it needed none.

Our train moved at a very slow rate, but we enjoyed the ride, and did not care to go swifter. It was nearly 12 o'clock before we saw the beautiful river Elbe and the shining steeples of the beautiful city on its banks.

DRESDEN.

This is a very old city, and dates back to a time prior to the year 1200. It is built on both sides of the river Elbe, and on account of its beauty is known as the "German Florence." The four principal divisions of the city are the Altstadt (old city), Neustadt (new city), Friedrichstadt and Antonstadt. A queer fact might be mentioned that the "old city" is much newer—as to its buildings—than the "new city." Dresden is the capital of the kingdom of Saxony and has been the place of residence for its kings since 1485.

On arriving in the city our first errand was to hunt for American friends who are sojourning there. We went to the pension, where Mrs. Bryant, of Denver, was boarding, but there was no room for us. Mrs. Bryant, however, secured us a fine location at Luttachau Strasse 23, where we obtained excellent rooms for our whole party. This pension was kept by Mrs. Schmidt, a distant relative by marriage of Mrs. Smith who lives in the United States.

After refreshing ourselves from the effects of a five-hour railway ride, we started out, with Mrs. Bryant for our guide, to see some of the beauties of this fine city, which in many respects is superior to Berlin. I might mention at this point that the population of Dresden is 334,000. I didn't count them all, but my Baedeker told me so. Our course was to the center of the city, where we crossed the river over the "Altebruecke" (old bridge), also called "Augustusbruecke" (Augustus bridge), after some gentleman by the name of Augustus, probably "Augustus the Strong," who was one of the monarchs

of Saxony several hundred years ago. This is a wonderful old bridge, built before the year 1300. It is 1,420 feet long (more than a quarter of a mile). It is built entirely of stone and has sixteen arches most solidly constructed. As it has withstood the travel for over 590 years the contractor needn't fear being sued for damages on account of imperfect material used. From the center of this bridge the finest view of the city can be obtained, so my guide book says, and we believed it. This bridge connects the Neustaedter-markt and Schlossplatz, and it was the Schlossplatz whither we were bound.

In and near the Schlossplatz are located the most interesting buildings, both on account of age and beauty, as well as of historic interest. Here are the royal palace, museum, Bruehl palace, Zwinger Academy of Fine Arts and the old Catholic cathedral, called Dreikoenigskirche, which I think was so named in honor of the three wise men (the three holy kings) who journeyed to Bethlehem to bring gifts to the infant Savior.

This Catholic church is an immense building, with towers which "touch the clouds," one being 300 feet high, and it was to this building we made our first visit. This is the court church for the monarchs of Saxony, though they espoused the cause of Martin Luther in the time of "John the Constant" and "Friederick the Wise," dukes of Saxony, yet a hundred years or so later they became Catholics in order to be qualified as kings of Poland.

This church is ornamented on the outside with the statues of seventy-eight saints, which are located at convenient intervals on the parapets, and their names I do not just now recall.

A covered passage-way connects this church with the royal palace.

We found the old sexton, who was industriously inclined to turn an honest pfennig or two, and he showed us the interior of the church, which is very fine indeed.

There is one main audience room, with four chapels connected with it, all having most beautiful altars, though the one in the large room was grandest, of course. This one has an altar piece representing "The Ascension"—a painting by Raphael Mengs, and this is one of the most celebrated pictures in Dresden, which contains some of the finest in the world.

All the candelabra and ornaments on the altar are solid silver, and in the little chapel to the right we saw an additional ornament which was very interesting, but not entirely comforting to behold. It was a mummied body at the foot of the altar, and shielded in its receptacle by a glass cover which permitted a complete view. We asked the guide who it was, and he said it was the body of a princess hundreds and hundreds of years old, and he didn't know her name; I forgot to inquire further, so I cannot identify her except to say she was dressed in what looked like blue satin shroud, sandals on her feet, and on her head a fancy gear of some kind.

Again in the main room we were shown the royal balcony to the right of the altar, and at the rear the immense pipe organ and the choir loft. Beneath the sacristy are the royal burial vaults, which cannot be seen except by looking through the grated windows from one of the halls.

To the left of the church we ascended a broad flight of forty-one steps to the Bruehl terrace. On this grand flight of steps are beautiful groups of statuary, gilded, the work of the sculptor Schilling, representing "Morning," "Evening," "Noon" and "Night." This Bruehl

terrace is a half mile long, overlooking the river Elbe, and here are fountains and trees with beautiful flower plots, a part of which may be seen in the picture of the Zwinger, which will be mentioned in my next letter. Behind the church is the schloss, or palace, which is a very unassuming building in appearance from the outside, and the interior shows great age and does not compare favorably with the smallest palace in Berlin or Potsdam.

West Indies Cable Stations.

The cable stations from which people in the United States get news of operations at Santiago de Cuba and its vicinity are Kingston, Jamaica; Mole St. Nicholas, Hayti, and Cape Haytien, Hayti.

Kingston, Jamaica, is the nearest ocean telegraph station to Santiago, and is distant about 150 miles, seven or eight hours' run for a swift dispatch boat. It was at Kingston that the first intimation of the massacre of Captain Fry and the crew of the Virginus at Santiago, in 1876, was received, and from that place a British warship was dispatched for the rescue of the unfortunate crew. The island of Jamaica, which belongs to Great Britain, lies directly south of the east end of Cuba. Kingston is the capital and is situated upon a splendid harbor on the south shore of the island. It is a city of about 35,000 population.

The next nearest cable station to Santiago de Cuba is Mole St. Nicholas. This is at the northwest extremity of Hayti, upon the best harbor of that country. It is about a hundred and seventy miles from Santiago and overlooks the Windward Passage, which separates Hayti from Cuba. The narrowest part of the Windward Passage is about sixty miles wide.

Cape Haytien is on the northern coast of Hayti, about seventy-five miles east from Mole St. Nicholas. It is a cable station and a town of some commercial importance, having a population of about 12,000. Directly east from the island of Hayti or Santo Domingo, and separated from it by the Mona Passage, lies the Spanish island of Porto Rico. San Juan, its capital, lies on the northern coast, about thirty miles from its eastern extremity. Sixty or seventy miles east from San Juan is the Danish island of St. Thomas. There is a cable station at Charlotte Amelia, the capital of this island, and from that point the news of operations in Porto Rico will probably be received. The French island of Martinique is 400 miles southeast of San Juan.

From Tampa to San Juan the distance is about 1,300 miles, and from Tampa to Santiago de Cuba is about a thousand miles. The distance from Tampa to Key West is 250 miles.

Home Treatment for Cancer.

Dr. Bye's Balm Oils, for cancer, is a positive and painless cure. Most cases are treated at home, without the service of a physician. Send for book telling what wonderful things are being done by simply anointing with oils. The combination is a secret; gives instant relief from pain, destroys the cancer microbes, and restores the patient to health. Thousands of cancers, tumors, catarrhs, ulcers, piles and malignant diseases cured in the last six years. If not afflicted, cut this out and send it to some suffering one. Address Dr. D. M. Bye, Box 25, Indianapolis, Ind.

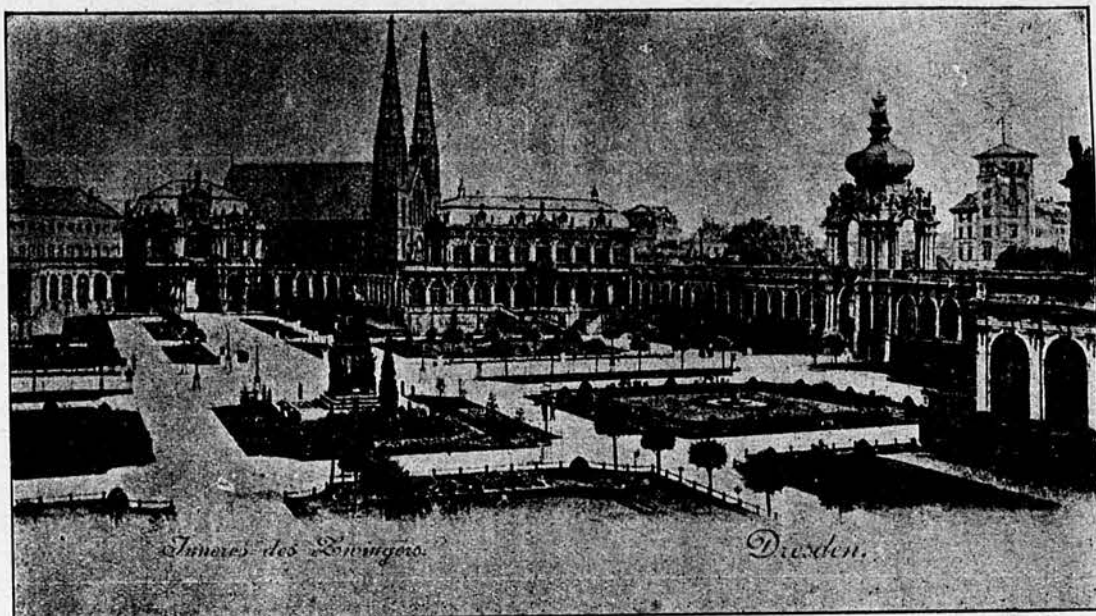
This is the time of year when myriads of farm housewives are doubly thankful that the creamery has taken the work of butter-making out of the house.

Mothers! Mothers!! Mothers!!!

MRS. WINSLOW'S SOOTHING SYRUP has been used for over FIFTY YEARS by MILLIONS OF MOTHERS for their CHILDREN while TEETHING, with PERFECT SUCCESS. IT SOOTHES THE CHILD, SOFTENS THE GUMS, ALLAYS ALL PAIN; CURES WIND COLIC, and is the best remedy for DIARRHŒA. Sold by Druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.

1898 BICYCLE \$3.00

Yes, \$3.00 takes our up-to-date, guaranteed bicycle on our great co-operative offer. You do a little work in your spare time. Write soon. COOK CYCLE CO., Office, 67 4th Ave.; Factory, 16-18 Franklin St., Chicago.



KANSAS FARMER

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Display advertising, 15 cents per line, agate (fourteen lines to the inch).
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Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.
All advertising intended for the current week, should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free during the publication of the advertisement.
Address all orders—
KANSAS FARMER CO., Topeka, Kas.

Three car-loads of alfalfa-fed cattle were shipped from northern Kansas last Monday. One car-load of strictly alfalfa cattle, it was expected, will top the market at Chicago.

Henry Clews says that the July 1 dividends and interest money in this country will considerably exceed \$100,000,000, "and will undoubtedly prove the largest semi-annual corporation profits payment of record."

Reports as to the wheat harvest in this State vary between the extremes of complete loss of soft wheat by rust to forty-five of fifty bushels per acre for some fields of hard wheat. Without doubt Kansas' wheat crop this year will prove to be enormous.

The Kansas commission of the Omaha exposition report that the County Commissioners of several Kansas counties have sent in their quota of the State appropriation and that Shawnee county has just responded. Over one-half of the counties have sent in their remittances.

A Kansas Farmer representative met Dr. Benjamin Brown, of Chicago, at Omaha last week, and was informed by him that Mrs. Rachel R. Gallagher Brown and himself had just invested \$58,000 in some Kansas farms in Sedgwick and Butler counties, not far from Wichita.

The bureau of information of the National Association of Manufacturers, The Bourse, Philadelphia, Pa., is in receipt of a request from William Young, Rotunda buildings, Cardiff, Wales (established 1878), for the names of some large producers of apples, for which he is in the market for a considerable quantity, and desires connections for the coming season's crop.

The attractive power of liberal prices received a striking illustration in the recent changes in the amount of wheat sent to market by American farmers. For the week ending April 16 this was 1,660,000 bushels; for the week ending May 21, 6,015,000 bushels; for the week ending June 18, 1,186,000 bushels. Price has a good deal to do with the amount of wheat we can scrape up in the bins.

Secretary F. D. Coburn, of the Board of Agriculture, Topeka, is desirous of communicating with any of our readers who have had experience in rearing hogs mainly on either alfalfa, Kaffir corn and the sorghums (both as pasturage or grain), also barley. Mr. Coburn believes these crops afford in large measure the basis for a greatly increased and very profitable pork production in much of Kansas, and is desirous of ascertaining for public benefit what is being done along such lines.

BREEDERS' EXHIBITS AT OMAHA.

All live stock and poultry entries for the Omaha exposition must close on August 10, 1898, except for fat stock, which close August 15.

All stock exhibited must have been owned by the exhibitor from July 10, 1898.

For detailed information as to rules, premiums, etc., intending exhibitors should address J. B. Dinsmore, Live Stock Commissioner, Omaha, Neb.

KANSAS AT OMAHA.

The dedication of the Kansas State building at the Trans-Mississippi and International exposition took place at Omaha, June 22. An entertaining and enthusiastic program of music and speeches was presented. Ex-Governor Glick, President of the Kansas commission, presided in a very happy and acceptable manner. The Governor was never in better form and his occasional remarks were so appropriate that the many visitors present declared him to be a regular prince of a presiding officer.

The speeches and music were of a high order and consisted entirely of Kansas talent, with the exception of the response to the address of welcome by Hon. G. W. Wattles, President of the exposition. The address of welcome by John E. Frost, Vice President of the Kansas commission, appears on another page of this paper. The prayer was made by Rev. A. F. Irwin, of Hutchinson. The musical program was furnished by a male quartette from Topeka, consisting of Messrs. Shirer, Overholt, Shaver and Moore. The pianist was Miss Eleanor Wort, of Topeka. This, with the six members of the Boys' First Regiment Trumpet Corps, comprised the musical talent which interspersed a number of appropriate selections with the speeches of the occasion. F. D. Coburn, Secretary Kansas State Board of Agriculture, delivered an address on "Some Facts and Fiction About Kansas." This address was conceded to be one of the best and most popular speeches ever made by the tireless Secretary, and when published later will be considered a telling story for Kansas at home and abroad.

The dedicatory address was to have been delivered by Charles S. Gleed, of Topeka, but he was compelled to secure a substitute in the person of Hon. Silas Porter, of Kansas City, Kas., who delivered an eloquent and patriotic speech that made his hearers proud that they were Kansans and tempted the other hearers not citizens to wish to come into the fold. The closing speech was made by A. W. Smith, of McPherson, one of the Kansas commission, and while he was not on the regular program he was called out by the enthusiastic audience and made a typical and effective talk.

The commission deserves great credit and praise for what it has already done for Kansas at this great exposition, especially in view of the short time and limited means at command. The commission and the State of Kansas are particularly fortunate in having Mr. A. H. Greef, who is Secretary of the commission, and who gives his entire time to Kansas interests in the Kansas building at Omaha. He is a veritable host in himself and attends to the thousand and one Kansas wants with dispatch and perfect satisfaction, and all the Kansas visitors were unanimous in the opinion that Mr. Greef is the right man in the right place.

The exposition management was loud in its praises of the Kansas program and were frank enough to say that no other State had so far presented a program of such excellence as the Kansas crowd.

The appearance of the Kansas building (see page 2) is at once pleasing and dignified, with broad porticos on three sides and balconied upper portions. In its composition the result of classic influence is at once manifest, and in endeavoring to obtain this, combined with convenient arrangement and economy, the result has been eminently satisfactory. The building is fifty-five by fifty-seven feet. Entering the main or assembly-room, which is thirty-two feet square, extending through both stories, the gallery above is reached by ample staircases, and from this level a fine view is obtained of the surroundings. Opposite the main entrance are located the checking-room and postoffice, while at either side the rooms adjoining are arranged en suite, those on one side being assigned for use as women's parlors and lunch-room. The building is thoroughly equipped for all practical purposes, and for the convenience of the women a special checking apartment has been provided and made accessible from their parlors. All things considered, this will be one of the most popular of the State buildings. It is located on the bluff tract, in the group of State buildings.

The Kansas exhibit shows what can be done by the business interests of a State when they have made up their mind to take a hand in a project of a public-spirited nature. The Legislature, for some reason, neglected to make any appropriation; but, not to be outdone, the railroads and Governor J. W. Leedy, with the leading business men of the State, put their heads together, and the result is that Kansas has one of the prettiest buildings on the grounds and is making a splendid showing in its ex-

hibits, particularly in mining and agriculture.

What the railroads did—the Atchison, Topeka & Santa Fe, Missouri Pacific, Rock Island and the St. Louis & San Francisco—in raising the magnificent sum of \$15,000 for the Trans-Mississippi exposition had very much to do with stirring up the agricultural, mining and commercial interests of the State to an enthusiastic effort for a creditable exhibit. Governor Leedy appointed a commission of five good, solid men on March 28 of this year, and they at once went to work securing material for a display. They are G. W. Glick, ex-Governor of Kansas; J. E. Frost, of Topeka, who has been Land Commissioner of the Atchison, Topeka & Santa Fe for the last eighteen years; A. W. Smith, of Groveland, a prominent farmer of McPherson county, who was a candidate for Governor against Mr. Lewelling; A. C. Lambe, of Wellington, a resident of Sumner county for twenty-two years and one of the leading stockmen in the county, and A. H. Greef, Secretary of the Pittsburg Commercial Club. The commission organized with Mr. Glick, President; Mr. Frost, Vice President and Treasurer, and Mr. Greef, Secretary and General Superintendent. Ex-Governor Glick was the President of the Kansas commission at the World's Fair. Mayor C. A. Fellows, of Topeka, was afterward made the Vice President for Kansas on the exposition board.

It was Mr. Greef's idea that the counties could be appealed to separately to aid the State commission. He figured it out that there was a total assessed valuation in the State of \$321,157,487, and that at less than one-thousandth of a mill on the dollar a sum of \$25,000 to \$30,000 could be raised, but to make a slightly more conservative estimate he fixed the total figure for the State at \$24,086. Of this amount the citizens have succeeded so far in raising \$13,000 and there is every prospect of the remainder being soon forthcoming.

A circular was sent out the very next month after the commission was appointed inviting the county boards throughout the State to co-operate with the commission; in fact, it was decided to proceed in this manner at the very first meeting of the commission, which was held in the Copeland hotel at Topeka on April 6, nine days after the commission was named. At first the county boards had some doubt of their legal right to make any disposition of the funds such as the commission suggested, but an official opinion by Attorney General Boyle soon set this question at rest by saying practically that as there was no law on the statute books prohibiting the county boards from going ahead and advancing money to the State commission for the purpose desired, and there was every probability that the Legislature at its next session would reimburse the counties, the boards could go right ahead and act as a law unto themselves.

All the State ever expected to raise at first was \$30,000, including the amount from the railroads, and it has now very closely approximated that sum. To show what interest the people generally took in the matter, it was at the urging of the State Board of Agriculture, the State Horticultural Society and the Fine Stock Breeders' Association that Governor Leedy appointed the commission. The department of promotion of the Trans-Mississippi exposition board had communicated with a large number of influential men in the State, and some of them had paid Omaha a personal visit to look into the matter for themselves. They saw that the thing was going to be a success, and did not propose to have their State left out in the cold. When he heard that the railroads had gotten up a purse of \$15,000, Governor Leedy said, "Well, I'll see that Kansas raises \$15,000 more," and he did not sleep over the matter until he had taken steps to fulfill his promise.

Among the more important exhibits from Kansas in the mineral line are those of the lead and zinc of Cherokee county, coal from the Kansas & Texas Coal Company, Wear Coal Company and the Western Coal Mining Company, of Pittsburg, and the Leavenworth and Riverside Coal Companies, of Leavenworth; paving brick from the Pittsburg and Topeka vitrified brick companies and the Atchison Paving Brick Company; rock salt from the Royal Salt Company, of Lyons, and the Western Salt Company, of Sterling, and building stone from the Bandera Stone Company, of Redfield. In the agricultural line Horner & Ross, of Burr Oak, have a fine display of corn in the ear; Vincent & Scofield in corn and wheat, and there are some magnificent exhibits from Washington, Labette, Atchison, Sedgwick, Sumner, Cowley and Harper counties.

A great proportion of the splendid displays of the Santa Fe, Rock Island and

Cotton Belt railroads in the agricultural building has been drawn from Kansas, as a matter of course. The railroads went ahead, anticipating what a big thing for them the exposition would be, and secured the cream of the Kansas agricultural products several months before any State commission had been appointed, but with the assistance of the State Agricultural Board and the Horticultural Society the commission expects to be able to exceed anything Kansas has ever shown in the farming and fruit industries. Prof. H. L. Worrall, of Topeka, who has had charge of the exhibits of the Santa Fe railroad for twenty years, is the superintendent of exhibits for Kansas.

WHEAT.

The collapse of the Leiter wheat deal and the great tumble in prices which occurred about the same time, together with the very roseate views entertained as to this year's crop, has led some to believe that the bottom has again been dropped out of prices and that we shall see a repetition of the depression to figures below the cost of production. It is not possible at this time to more than guess at what the world's wheat crop will be this year. The aggregate varies greatly from year to year. In 1894 it was, according to official reports, 2,676,651,000 bushels, while in 1890 it was but 2,041,075,000 bushels, the difference being 625,576,000 bushels. The entire wheat crop of North America but once was officially estimated at an amount greater than this difference between two world's crops, while North America's crop for the last five years has averaged but 516,367,434 bushels, an amount several millions less than the world's variation. The United States produces a little more than 90 per cent. of the crop of North America. Thus it appears that while this country is a considerable factor in feeding the bread-eating world, we lack a good deal of being the sole dependence. The world's average wheat crop for the last five years was 2,471,220,834 bushels. We really produce less than one-fifth of the world's crop.

The fact that we are liberal exporters adds to the interest in our crop felt by the rest of the world. Our exports for the year just closed have been unusually large. They are estimated at 210,000,000 bushels. These bushels bring a goodly number of millions of dollars to our side of the big pond. In view of the fact that Europe had for several years been dipping a little closer to the bottom of her bins, it was fortunate that we had so much wheat to spare. But we are scraping pretty close to the bottoms of our own bins now. There is less wheat in sight in the United States than at any time since 1891. Should the crop this year realize the most sanguine expectations by yielding 700,000,000 bushels to the farmers of North America, the excess over average crops would not enable us to spare enough to bring the world's available supply up to the usual quantity, if the other wheat-producing countries produce only average crops. It is estimated that during the cereal year now closing the people of the United States used for bread and seed 365,000,000 bushels of wheat, or 1,000,000 bushels per day. We shall require more for the next year, because there will be about 1,500,000 more of us to be fed, and we shall doubtless use more for seed. Should we eat, sow and store for future use 400,000,000 bushels of our 1898 crop we should have for export to other countries, say 300,000,000 bushels, according to the highest estimate placed on this year's crop. This will be less than 100,000,000 bushels more than our exports from last year's crop with which to refill the granaries of our neighbors. That this quantity will be readily absorbed is not doubted.

Very high prices may not prevail. Even low prices may be made for the bulk of the crop marketed early. But the market should not suffer from a great plethora of wheat as it suffered two and three years ago. Wheat should be a good crop for Kansas farmers to plant. It is a good crop to take care of, and while it will not make every wheat-grower rich, it will help to make for many families a good living.

The Kansas State Dairy Association will hold its next annual meeting at Topeka. The dates are November 16, 17 and 18.

Do You Intend Moving?

Why not investigate southwest Missouri, southern Kansas, northwest Arkansas, Indian Territory or the Texas coast country? The manufacturing, farming and stock raising industries of these sections are attracting considerable attention. The chief centers are reached via the Frisco line. For ticket rates and full particulars, address Geo. T. Nicholson, Gen'l Pass. Agt. St. Louis, Mo.

GOOD AT THE AGE OF 122.

Fourth of July, 1898, will bring to Young America of this generation experiences to which youthful patriotism has been a stranger for a third of a century. Actual war in which friends and relatives are engaged, actual booming of cannon against an armed foe, actual flying of flags for protection of oppressed and struggling people, actual wounds and death in the service of our country—these are the fulfillment of the prophecy of the firecracker as the small boy's notice to all the world of what he will do to his country's foes; these are the fulfillment of the promise that the stars and stripes shall symbolize protection to the downtrodden; these make good the oft-repeated and sacred declaration, "We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty and the pursuit of happiness. That to secure these rights governments are instituted among men, deriving their just powers from the consent of the governed; that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or abolish it, and to institute a new government, laying its foundation on such principles, and organizing its powers in such form as to them shall seem most likely to effect their safety and happiness."

It is long since any nation or people cared to dispute with the United States these propositions as applied to our own citizens. But we have seen a neighboring people cruelly deprived of rights which our forefathers had declared belong to all men. We have joined our strong arms with the weak arms of the Cubans and have declared that they, too, shall be free to institute a new government. We have solemnly declared that it is no part of our intention to gain territory for our nation, but simply to relieve the oppressed and suffering.

No war was ever undertaken for a nobler cause. If we shall honor our own declaration of independence by keeping steadfastly the recent declaration of our Congress against conquest, then indeed will the Fourth of July be a day, yet more notable in the future than in the past, in the annals of human liberty and progress.

A BULLETIN ON PUMPS.

A machine which is in almost universal use is the pump. Some people understand the mechanism and working of the pump, but more do not. It has been a matter of no very great practical importance to the user of a pump for light service whether he understood it or not. The pump lasted a long time and was loaded into the wagon and taken to the shop when needing repair. So, too, it mattered not whether the pump made the most economical use of the power applied, especially if it were wind power. But the advent of irrigation with pumped water called for large supplies and for machines of enduring qualities. So, also, it makes it important that the pump user shall understand his machine. To meet the demand for information and to develop knowledge along lines of practical utility in pumping, Mr. F. H. Newell, hydrographer of the United States Geological Survey, some time ago engaged Prof. Ozni P. Hood, of Kansas State Agricultural College, to make some experiments with pumps and to write a report. This report has just been published and is No. 14 of "Water Supply and Irrigation Papers of the United States Geological Survey." Every user of a pump ought to send for a copy. It is for free distribution as long as the supply lasts.

Beginning with the simplest forms of pumps this bulletin makes plain to the general and unscientific reader the construction and principles of working of piston, plunger, suction or lift pumps. It gives in the simplest possible form reports of Professor Hood's experiments to determine the efficiency of several patterns of pumps. These are especially interesting to the engineer and the student, but they are also practically valuable to the user who does not care to follow the details of the tests but is anxious only for the results.

The diagrams of pump actions show graphically the stress to which the machinery is subjected in starting the column of water at each stroke. They illustrate the prime cause of the rapid destruction of this class of machinery and of the driving gear of windmills where the action is violent. It is to be hoped that some form of water lift adapted to use with wind power and free from the objections to the plunger pump may be placed within the reach of users requiring large supplies of water at small cost. The bulletin illustrates and describes two devices for lifting water in

which the shock of starting a long column of water is avoided. These are open to certain objections, and it is to be hoped and indeed to be expected that others adapted to the use of farmers will be brought out.

THAT HISTORIC BELL.

A "Liberty bell" souvenir has just been issued by N. W. Ayer & Son, advertising agents, of Philadelphia. It consists of a number of pictures of the old bell printed in close imitation of the appearance of the relic. This brief history of the bell is reproduced:

"The Independence bell was made in London on the order of the Province of Pennsylvania, and reached Philadelphia in August, 1752. Within a month it was cracked by a stroke of its own clapper. It was recast by Pass & Stow, of Philadelphia. This second casting not being entirely satisfactory, it was once more recast. This time the true liberty pitch was struck, and in 1753 it was placed in the belfry from which it was to ring in and ring out the shifting scenes in the mighty drama of a nation's freedom. This bell is twelve feet in circumference around the top, and seven feet six inches at the crown. It is three inches thick at the thickest part, and one and one-quarter at its thinnest. The clapper is three feet two inches long, and the weight of the whole is 2,080 pounds. It is still suspended from the old yoke on which it hung during the Revolution. Its inscriptions entirely encircle the crown and are 'Proclaim LIBERTY throughout the Land unto all the INHABITANTS thereof. Lev. xxv. v. x.' 'By order of the Assembly of the Province of Pennsylvania for the State House in Philada.' 'Pass & Stow, Philada. MDCCLIII.'"

THE DOCTOR.

BY HENRY W. ROBY, M. D.

The blooming idiots of all the ages have amused themselves with drawing indictments against the doctor. The old adage about doctors disagreeing is so old that nobody can tell where it started. Who ever heard of anybody else disagreeing? Did any one ever know of lawyers, or preachers, or editors, or statesmen, or tribes or nations disagreeing?

We have not long to listen to hear it said that the doctors are always at loggerheads; what one extols another condemns; what one prescribes another proscribes; that the edict of one is the interdiction of another; what one anathematizes as the bane and ruin of the race, another extols as the palingenesis of mankind. We are told with a sardonic smile that the first doctor practiced in Eden, and that a certain old lady, who with her husband was a tenant of the premises, had been forbidden by the landlord the use of apples from a certain tree on the ground that they were not ripe, or were unwholesome. In a short time they looked so tempting that she appealed to the family doctor. He came in and after looking over the case, found, as most of his brethren still do, that the old lady wanted her own prescription approved by the doctor, and in order to please her, he said: "Why, yes, madam. It's all right. I find you are afflicted with dimness of vision, but if you eat a few of these new red apples your vision will clear up all right and you will see as well as the landlord." And she ate the fruit and did see. She saw two things she never had seen before. One was that she had omitted her raiment, and the other was an angry landlord evicting his tenants from the premises for a breach of the lease.

Both sacred and profane history join in the grand indictment of the doctor. St. Mark says that a certain woman "had suffered many things of many physicians and had spent all that she had and was nothing better, but rather grew worse." But he admits that she made one more change of doctors and did get cured. And Luke tells us that even in his day the old, old saying, "Physician, heal thyself," had come to be a proverb. All the disciples were doctors (see Luke 9:1), and yet everybody was saying, "Great cures are wrought in Capernaum; why can't some of our doctors do something here?" The same thing is dinned into our ears to-day: "In London or Paris or Vienna great cures are made; why can't our doctors do the same things?" And in London and Paris and Vienna they say: "Why, over in America the doctors can take you all to pieces and make you over again, much better than new; why can't some of the European doctors do as well?"

The world has never heard of but one physician to whose want of skill the death of one or more patients has

not been charged by the querulous. He was the Great Physician of Galilee. His patients all recovered, no matter what the ailment, even death.

Selkirk, in his "Recollections of Ceylon," tells us that he knows of no more unconscionable and hard-hearted set of men on earth than the native doctors. He says at the first call they demand so many rix-dollars and then they give the patient something to make him worse, and on the morrow he says the patient is so much worse he will not be able to cure him without so many more rix-dollars. Did anybody else ever take advantage of his fellow man in distress? Did Shylock do so? Do the money-lenders of this generation take the pound of flesh—the mortgaged home and a judgment over? Do our merchants sell straight goods and deal up to their advertisements in the papers? Do the lawyers win all the cases they promise to when they take a retainer? Are there no unjust judges, no shirking laborers, no soldiering servants?

But indicting other men does not clear the doctor. Take all the items in the indictment and add as many more to them as you think are just; add the crime of manslaughter and murder, all the shortcomings of ignorance and the overreaching of cunning and avarice, all the foolish blunders imputed to the genus medicus, from Sangrado to Schlatter, and pile them all in one vast aggregation, mountain high, and then call the defendant before judgment is pronounced and hear his plea in abatement. He comes in and says: "I admit it all. It is true that I did all these things, but I did them for the most part with good intentions and love of my kind. When I committed crime I was often bribed to do so when my own family was starving. But I paid the penalty of the broken law the same as all other men have done. But aside from crime (and I have as little of that to account for as any other class of men), I have done many foolish things and made many blunders. Who has not? But in love of my kind I have spent my life and my substance, my thought and my energy, in trying to better the condition of mankind. I came to the planet with the human family. I came out of the darkness and night of the early ages with the human race. When other men groped in the darkness, I groped there, too. When they walked in the twilight, I walked there, too. When they had only the starlight of knowledge to guide them, that same light was mine. Before the days of letters or science, when astronomy was astrology, and chemistry was alchemy; when there was no physiology, no pathology, no microscopy, no analysis, no synthesis, when men knew naught of specific gravity, nor anatomy, nor materia medica, I still kept step with mankind and walked with humanity from morning till night, and from night till morning, in search of that which I saw a great crying need of. And when the light became stronger and the days longer, and the nights less dark and howling, and mankind staggered and groped less in the journey of life, I still walked in the front rank and turned my face to the sky and cried for light, more light! And when the light brightened and the horizon widened and more of the landscape came into view and my kindred cried more and more for help, I strove with all the might that was in me to help them. And day by day and year by year I struggled on up the toilsome way. I still hoped and labored. And when I found my opportunity I rebuked the priest and Levite and went straight to my brother and bound up his wounds, and in countless instances I set him on my own beast and replenished his spent purse from my own scanty hoard, and many a time I became responsible to the inn-keeper for his keep while he lay groaning with a broken bone or a raging fever. Through all the dark ages of the world, when I was burning and blistering and purging and salivating and bleeding and even hoodooing him in some instances, I was at heart more than anxious to find the right way and the right method of relief. I was even then engaged in burning the midnight oil and praying for more light. No lawyer, no priest, no statesman, no schoolmaster, no orator, no philanthropist, was ever any more solicitous than I for the welfare of the world. No man spent more of his life for his kind than I did. I worked when others slept; I toiled when others rested. And to-day I stand before that black and hideous mountain of wrong and ignorance and superstition and misadventure in your indictment, and lament it as bitterly as any man can.

"But, turn your face to the other side of the valley and see there another mountain of deeds pressing back the very clouds for room. Pull down that

mountain and analyze it and see what it is made of. The whole gigantic framework of this vast pile is made up of good intentions and good deeds, of warm and kindly impulses, to charity and benevolence, of sympathy and long suffering for my fellows, of days and nights of toil and peril, of broken health and joys curtailed, of life abridged, of family and friends neglected for the benefit of others. Pull down that mountain and analyze it and see what it is made of. On this tablet you read, 'The science of anatomy, a perfect structure. On this tablet, physiology; on this, chemistry; on others, pharmacy, pathology, pathogenesis, hygiene, longevity, circulation of blood discovered, vaccination—the death-blow to a pestilence that walketh in darkness; on another tablet you read death to the plague, to typhus, to yellow fever, cholera and the black death. And away at the apex of this mountain, shining like the central sun of the universe, so bright that you can scarcely read the inscription for its brightness, you read, 'anesthesia,' the world's greatest blessing, humanity's most precious boon. What wails and lamentations and cries of woe and shrieks of pain and groans and cries of anguish has it not lulled into peaceful dreams? What hosannas ring out for that deliverance of the race from the demon of pain! See that demon converted into an angel of happy dreams. See the field of battle and the field of surgery robbed of many wild terrors, confronting which strong men prayed for death, by chloroform and ether. See the deadly tyrotoxican isolated from milk and cream, and cholera infantum bidding good-by to your smiling infant.

"Light up the great temple of medical achievement and see Jenner coming in and smallpox stalking out, Harvey coming in and myth and superstition bowing their adieus to the world. See the microscope standing before you, revealing a thousand mysteries of the soul's habitation, while the spectroscope enlarges the analysis, and the X-ray piercing the last shadow on the hearthstone. See the old lancet covered with rust and plebotomy almost a forgotten tale. See the irons that once glowed over the charcoal, now cold and eaten with dust, while the moxey is but a fast-fading name. See the wrongs of former ages being righted by this. See the tons of calomel and jalap, the black draught, the emetic and the purgative being laid on the shelf of the museum, while milder and more humane measures and drugs take their place in intelligent practice. See one generation of man passing to the great unknown at the average age of 21 years under the old regime, and another bidding adieu to mortality at twice that average under the new regime. Look back to the ancient days and see men lie down and die with broken bones for want of a competent surgeon, and now see the moving panorama of uncounted limbs crushed and cracked and mangled in a great cyclorama of human activities, nearly all restored to normal contour and wonted function, while men and boys run and leap and shout for joy on limbs that in former ages consigned them to the clods of the valley.

"Look back to the pools of Siloam and Bethesda and see the lame and the halt and the blind, the leper, and the dying of all kinds lying on the ground and in tents and caravans under the stars of night and the blazing sun of noon, all waiting to be healed by some miraculous power. Then look out all over the land to-day, and wherever the light of civilization shines see the hospitals, the invalids' homes, the asylums, the retreats, the sanitariums, the cancer and consumption hospitals, and the swift trains and ships hurrying to sunny lands and warm retreats with the weak and feeble.

"See the new-born infant and the centenarian, both saluting and blessing the doctor; the one because it had a chance to be well born and well started in life, and the other because the road to the centenary was safeguarded to the end."

National Educational Association Meeting.

This year our educational friends meet in Washington, D. C., July 7 to 12, and members of the association and others from points west of the Missouri river should by all means take the Union Pacific.

The service of the Union Pacific via Omaha or Kansas City is the very best. The equipment consists of handsome day coaches, chair cars, Pullman drawing-room sleepers, dining cars and buffet smoking and library cars. Fewer changes than via any other line. One fare, plus \$4, for the round trip will be the rate from all points west of the Missouri river for this meeting.

Horticulture.

MISSOURI HORTICULTURISTS.

At the recent midsummer meeting of the Missouri State Horticultural Society the usual expectation that important subjects would be ably discussed was not disappointed. We present a few selections from the admirable report of the Western Fruit Grower:

Dr. Howard Ayers, of Columbia, gave a paper on

THE CAUSES OF THE VARIATIONS IN CULTIVATED PLANTS WHICH GIVE US NEW VARIETIES.

Mr. Ayers said that the prime concern of private individuals and members of this society was the growing of the best varieties of fruit for market. They do not as a rule take trouble to study out how the best varieties come into existence. This is now an important field; it lies somewhat outside of regular occupation. Experiments are now under way at the experiment station at Columbia of new varieties of fruit plants and vegetables. It is known that the possibilities in the improvement of such grain as wheat are unlimited. They hope to be successful in creating a variety of potatoes that will grow white potatoes on the stalks above ground. In order to produce such vegetables above ground we must make a selection of such plants as naturally produce above ground as well as below like the potato. By careful selection and the proper knowledge they hope to be successful. When any plant puts its strength in one part it ceases to place it in any other place.

"But first," said the speaker, "let us consider what is a variety. In horticulture every plant is considered a variety if different enough from any like plant to call attention to the fact. Probably all varieties of peaches, roses, etc., have come from one single variety, originally. Take a row of peas planted from the same kind of seed, taken from a single plant, if it were possible, and no two plants will be exactly alike, and no single plant will be exactly like its parent. Thus the first great fact is that plants do have a tendency to vary. Another important fact is that there is an individuality of plants the same as in animal life. No two plants, no two twigs, no two buds, even, are exactly alike. This quality of variation is apt to escape observation, yet there is a difference and enough to prove sufficient to work on. In plants we should choose the best, always striving for something better than we have.

"Both atmosphere and soil vary in conditions, and here we are to look for these offsprings different from the parent plant. The soil does not change very much in the lifetime of a tree or a plant, but as centuries go by great changes of atmosphere and soil take place. By controlling moisture, heat, etc., we can make much more rapid change than nature can do. In nature each plant must struggle with all the others to get its proper amount of subsistence, living or dying according as it has energy to fight for an existence. We can see this anywhere. We are not to suppose that all varieties are capable of improvement; the tendency is very often to retrograde, or go back. Man or nature can never produce a universal variety, one growing equally well in all parts of the globe. Varieties that do best in some places must of necessity do only moderately well in others.

"We should never expect to have a science of plant breeding as perfect as in animal breeding, but we have already discovered ways to find well-established principles to obtain new varieties. Dewberries, blackberries and raspberries, started from wild plants, have been very much improved. First was shown a natural improvement. It is the same with apples, peaches, etc. Careful, persistent breeding of the apple has never been the object of more than individuals. After a plant has been carefully improved by intelligent breeding, we must use care to keep the variety as nearly up to perfection as possible.

"Fruits require many years to show much improvement, and those attempting it must observe a few rules, first of which is your selection, that being the key to all plant improvement.

"Second—Breed for one thing at a time. Do not try to get color, size, quality, etc., all at once.

"Third—It is most important to observe characters that belong to plants as a whole. Seeds from large apples or peaches are less likely to produce large fruit than seeds from one that is of uniform size, etc.

"Fourth—A slight variation, especially of bud, is more important than others. Larger variations as a rule are

inconstant and not so liable to follow after the parent.

"Fifth—Don't attempt conditions foreign to plants, or that contradict each other. It is unwise to attempt to create an entirely new character. Work along lines already known. Plants cannot develop two antagonistic habits. You cannot expect large fruit and also large clusters. Increase of size is produced by decrease of number.

"Sixth—Plants that naturally vary much produce quickest results.

"Seventh—Select for crossing only plants having desired qualities.

"Eighth—Hereditary power of plants vary much and can only be determined by trial.

"Ninth—Have a mental image of what you wish to create and hope for your ideal. No use trying for something only as good as the best now in use. Strive for something much better.

"Tenth—As you begin selection, so end it. Keep up to one ideal.

"Many agencies, such as experiment stations and individuals, are working in one direction. This society could do good work creating new varieties or greatly improve on the varieties we now have."

RASPBERRIES.

The first paper was by J. H. Monseer, of Beaman, on "Planting and Cultivation." The writer thought he could do better with the plow and hoe than with the pen. The most necessary points were, first, a grower with good, common sense; next, good, dry land that will not hold water, and which is rich enough to produce fifty or sixty bushels of corn per acre. Plow and prepare the ground thoroughly and have plants ready. Use strong tip plants, setting four feet apart in a furrow which has been made with a plow. Cover roots about two inches in bottom of furrow. When plants have started fill up the furrow. Cultivate well; the first season can grow melons; after that nothing unless it may be fruit trees. Don't plant in the fall. Cut back to twelve to fifteen inches the spring after first year; pinch back in the bud to keep back the canes, but let side branches grow. Cultivate and keep clean until about the middle of July. Grass doesn't do harm, but keep the weeds cut. The writer prefers Doolittle Early and Hopkins for main crop of blackcaps. For reds good land is necessary. Set plants four and one-half feet each way. Turner is the only variety he would plant.

The President called for general discussion of the raspberry.

Major Holsinger said he would not plant either variety named in the paper. He said the Kansas was the greatest, largest and best berry grown. The Doolittle is obsolete. Hopkins, Kansas and Gregg would be his choice. Regarding red varieties, he would plant Thwack and Cuthbert. Mr. Holsinger pronounced the paper perfect on planting and cultivating.

Other facts brought out in the discussion were that with one Hopkins was very successful. Turner is a good red, and many have been more successful with reds than with black. Mr. Nelson, of Lebanon, has tried all kinds of red varieties. He only grows the Turner. Plant six by four feet; let them grow in matted rows, cultivating centers only. Hopkins for blackcaps did well till some disease hindered. Anthracnose ruined the blacks for him and he started a new field. A few years ago he evaporated raspberries, when he could not get 5 cents per box or over. When evaporated they sold for 20 cents per pound. They now sell for 14 and 15 in New York and also in St. Louis, for fine quality. If he were going to ship either black or red raspberries he would want not more than pint boxes, and would have the bottom as near the top as possible. It depends on the season somewhat as to how many pounds of evaporated fruit can be produced from a case. It takes from three and one-half to four pounds of blackcaps to make one pound of dried fruit. Mr. Nelson thinks cow peas would be good to put in between rows after spring cultivation has ceased.

Colonel Evans said that until we get a variety that won't fall down and get into the dirt, we must give good cultivation.

President Murray endorsed the Kansas berry. In seven or eight varieties he grows Kansas is the best of all. He says he has picked berries for different markets. When picked with the dew on raspberries will not carry to distant markets, but if picked in the afternoon, when wilted by the sun, and then cooled off in a shed, they will go through to Cheyenne and other far-off markets. Mr. Murray makes it a rule that raspberries picked in the forenoon are sent to near markets and those in the afternoon went to a distant market. Don't pick at all when wet with dew or rain.

"In Omaha last fall," said the speaker, "they got evaporated berries from California at 13 cents per pound, and blackberries from New York at 12 cents. There doesn't seem to be much money in that, but Missouri ought to be able to keep up with New York and California, and make money at it if those States can."

The question being asked about the Nemaha, Colonel Evans had it a few years ago, but gave it up as not being worth much.

S. Kaufman has some Loudoun. The first year it gave some fine berries fully as large as the Turner. Plants now seem to be a little weak, but have some fine fruit now ripening. They ripen over a period of about three weeks.

Secretary Goodman is discarding Hopkins and planting Kansas; also planting some Gregg, in south part of the State. He plants eight by three and one-half or four feet, and even then by fall plants grow together. Eight feet is as close as he would plant the blackcaps, and even prefers nine feet. He spoke of a new berry propagated by Colonel Evans. None are on the market as yet, but will be some time. Planted side by side with the Hopkins they yielded two and three boxes to one of Hopkins under like conditions. Mr. Goodman said it is the most productive raspberry he ever saw, and yet he has seen Hopkins so full it seemed as if it was impossible to put another berry on it. It is not best to cut off laterals during the season. Let them grow out and root; trim in winter; pinch tops only once, leaving side branches.

President Murray indorsed what the Secretary had said about pinching and rooting laterals. He plants eight feet apart, and would prefer a greater distance.

Colonel Evans is satisfied that he has the best raspberry on earth for this section of the country, and for Missouri. He has ten or twelve acres now ready for picking. He cannot produce half as many of any other variety as this one; besides it stands up well and keeps berries off the ground, which is a great quality.

Mr. Barnes, of Kansas, spoke of a new Kansas berry named Cardinal. A. H. Griesa, of Lawrence, is the originator, who says it is the largest he ever saw. The bush is very rugged and hardy. Others who had seen the Cardinal liked its quality for table fruit very much, but feared it would prove too soft for general shipment.

Snakes in Horticulture.

I am sorry to see the relentless, senseless war of extermination waged against this friend of both horticulture and agriculture. The snake is one of our best friends. Prejudice has existed since "time out of mind" against this reptile. True, there are species that are dangerous to mankind and ought to be exterminated, notably the copperhead and rattler. Aside from these there are none indigenous to our country but which are highly beneficial. It has been my custom for twenty years to protect them on my grounds or since the grasshopper became so destructive. Finding a very large blacksnake, I concluded to have an interview. Having a rake in my hand, I placed it gently on the snake. It was as large and plethoric as a bank president. Instantly it commenced to expectorate vast quantities of grasshoppers, absolutely hundreds of them only partially digested. I at once recognized in my hitherto enemy a benefactor, and lifting my rake from his body, bade him go and continue his good work. Not only does the blacksnake eat grasshoppers, but beetles, moths and larvae of all kinds; aye, more, he devours field mice, young rabbits, et al. A friend recently captured a large specimen of an almost extinct species, the bullsnake. It was evidently an old-timer, measuring six feet in length. Now, my friend is a professor, and thought to instruct a class in zoology; so capturing the snake, he put it in a box, into which he placed two kittens for companionship, so that the snake might not get lonesome. In the morning the cats were gone and only an inflated bullsnake remained. He took his snake to school, sacrificed it to science, when the two kittens appeared, a proof of the adage that a cat has nine lives (only these were dead).

But what has this to do with snakes? Only this—that if you have snakes and cats you can get rid of the surplus cats by feeding them to the snakes. A snake in your cribs is worth a dozen cats, as they can wriggle through the corn and make the crib untenable for both rats and mice. Another thing in favor of protecting the blacksnake is a fact I learned in the army, while on the Rio Grande many years ago. I was assured by the natives that the blacksnake is the

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inveterate enemy of the rattler. Captain L. D. Dobbs, of my regiment, killed one in which he found a rattler with six rattles. It had not only killed, but had eaten its enemy. Believe me, and spare the snake; he is your friend.—Major Holsinger.

Tours in the Rocky Mountains.

The "Scenic Line of the World," the Denver & Rio Grande railroad, offers to tourists in Colorado, Utah and New Mexico the choicest resorts, and to the trans-continental traveler the grandest scenery. Two separate and distinct routes through the Rocky mountains, all through tickets available via either. The direct line to Cripple Creek, the greatest gold camp on earth. Double daily train service with through Pullman sleepers and tourists' cars between Denver and San Francisco. The best line to Utah, Idaho, Montana, Oregon and Washington via the "Ogden Gateway." Write S. K. Hooper, G. P. & T. A., Denver, Col., for illustrated descriptive pamphlets.

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In the Dairy.

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VALUABLE RULES.

The Minnesota State Dairy and Food Commission has issued some very excellent rules which it has distributed to dairymen throughout the State with an injunction to post in a conspicuous place. They cover points essential to success, whether viewed from the standpoint of a private dairy or from that of a creamery patron, and are as follows:

1. Read current dairy literature and keep posted on new ideas.
2. Observe and enforce the utmost cleanliness about the cattle, their attendants, the stable, the dairy and all utensils.
3. A person suffering from any disease, or who has been exposed to a contagious disease, must remain away from the cows and the milk.
4. Keep the dairy cattle in a room or building by themselves. It is preferable to have no cellar below and no storage loft above.
5. Stables should be well ventilated, lighted and drained; should have tight floors and walls and be plainly constructed.
6. Never use musty or dirty litter.
7. Allow no strong smelling material in the stable for any length of time. Store the manure outside the cow stable and remove it to a distance as often as practicable.
8. Whitewash the stable once or twice a year; use land plaster in the manure gutters daily.
9. Use no dry, dusty feed just previous to milking; if fodder is dusty, sprinkle it before it is fed.
10. Clean and thoroughly air the stable before milking.
11. Keep the stable and dairy room in good condition, fresh air and clean.
12. Promptly remove from the herd any animal suspected of being in bad health, and reject her milk. Never add an animal to the herd until certain it is free from disease, especially tuberculosis.
13. Do not move the cows faster than a comfortable walk while on the way to place of milking or feeding. No savage dogs.
14. Never allow the cows to be excited by hard driving, abuse, loud talking or unnecessary disturbance; do not expose them to cold or storms any length of time.
15. Do not change the feed suddenly.
16. Feed liberally and use only fresh, palatable feedstuffs; in no case should decomposed or moldy material be used.
17. Provide water in abundance, easy of access, and always pure; fresh, but not too cold. Do not use impure pond water.
18. Salt should always be accessible.
19. Do not allow any strong flavored food, like garlic, cabbage and turnips, to be eaten except immediately after milking.
20. Clean the entire body of the cow daily. If the hair in the region of the udder is not easily kept clean it should be clipped.
21. Do not use the milk within twenty days before calving, nor for three to five days afterward.
22. The milker should be clean in all respects; he should not use tobacco when milking; he should wash and dry his hands just before milking.
23. The milker should wear a clean outer garment, used only when milking, and kept in a clean place at other times.
24. Brush the udder and surrounding parts just before milking, and wipe them with a clean, damp cloth or sponge.
25. Milk quietly, quickly, cleanly and thoroughly. Cows do not like unnecessary noise or delay. Commence milking at exactly the same hour every morning and evening, and milk the cows in the same order.
26. Throw away (but not on the floor; better in the gutter) the first few streams from each teat; this milk is very watery and of little value, but it may injure the rest.
27. If in any milking a part of the milk is bloody or stringy or unnatural in appearance, the whole mess should be rejected.
28. Milk with dry hands; never allow the hands to come in contact with the milk.
29. Do not allow dogs, cats or loafers to be around at milking time.
30. If any accident occurs by which a pail full or partly full of milk becomes dirty, do not try to remedy this by straining, but reject all this milk and rinse the pail.
31. All persons who milk the cows should have their finger nails cut closely.
32. Remove the milk of every cow at

once from the stable to a clean, dry room, where the air is pure and sweet. Do not allow cans to remain in stables while they are being filled. Never keep milk in your stables or near bad odors.

33. Strain the milk through a metal gauze and a flannel cloth or layer of cotton as soon as it is drawn.

34. Aerate and cool the milk as soon as strained. If an apparatus of airing and cooling at the same time is not at hand, the milk should be aired first. This must be done in pure air, and it should then be cooled to 45°; 60° if for home use or delivery to a factory, or delivery for domestic use sold by pint or quart.

35. Never close a can containing warm milk which has not been aired and cooled by turning from one can to the other, stirred or dipped until animal heat is out.

36. If cover is left off the can, a piece of cloth or mosquito netting should be used to keep out insects.

37. If milk is stored it should be held in tanks of fresh, cold water (renewed daily), in a clean, dry, cold room. Unless it is desired to remove cream, it should be stirred with a tin stirrer often enough to prevent forming a thick cream layer.

38. Keep the night's milk under shelter so rain cannot get into the cans. In warm weather hold it in a tank of fresh, cold water.

39. Never mix fresh, warm milk with that which has been cooled.

40. Do not allow milk to freeze.

41. Under no circumstances should anything be added to milk to prevent its souring. Cleanliness and cold are the only preventives needed.

42. All milk should be in good condition when delivered. This may make it necessary to deliver twice a day during the hottest weather.

43. When the cans are hauled far they should be full, and carried in a spring wagon.

44. In hot weather cover the cans, when moved in a wagon, with a clean wet blanket or canvas, or covered wagon, or covered milk box.

45. Milk utensils for farm or dairy use should be made out of metal and have all joints smoothly soldered. Never allow them to become rusty or rough inside.

46. Do not haul waste products back to the farm or dairy in the same cans used for delivering milk. When this is unavoidable, insist that the skim-milk or whey tank be kept clean.

47. Cans used for the return of skim-milk or whey should be emptied and cleaned as soon as they arrive at the farm.

48. Clean all dairy utensils by first thoroughly rinsing them in warm water; then clean inside and out with a brush and hot water in which a cleaning material is dissolved; then rinse and lastly sterilize by boiling water or steam. Use pure water only.

49. After cleaning, keep utensils, inverted, in pure air, and sun if possible, until wanted for use.

It is the duty of all producers of milk to produce a good, clean, healthful and lawful article. In doing so you will increase the standard of the article you produce and keep out of the courts.

All persons are warned not to deface or tear down these official rules. The State law provides a penalty for so doing.

The farmers in any creamery district must not think that everything depends on the butter-maker in the success of the creamery. There have been failures and will be again if the notion that any thing or any way is good enough to take to the skim station for making butter prevails. Unless they give him the right material and in the right condition he cannot turn out butter that goes to the top of the market.

Some of the butter men who have been trying to make a market for good butter in Alaska are a little discouraged over the way oleo is pushing its way there. A manufacturer in Ohio is spoken of as sending many tons of the stuff there to be sold at big prices as genuine butter. There is no way to control the trade there except through Congressional legislation, which should be worked for.

The first advantage of dairying is that it takes less fertility from the soil than other branches of farming. A ton of wheat takes \$7 out of the farm and sells for less than \$16. A ton of butter takes 50 cents' worth of plant food from the farm and sells for from \$400 to \$600. Comment is needless.

Rock Salt for Stock.—Use Kansas Rock Salt for stock. Best and cheapest way of salting your stock.

How to Make Poor Butter.

Mrs. E. R. Wood tells, in the Jersey Bulletin, what she would do to make poor butter. What she would do agrees so well with what some people are doing that we give it place in our columns. The lady says:

"I am not aware that I ever made any poor butter, and for nearly a score of years butter from my hands has brought 25 cents or more a pound the year round, which is, I think, evidence of its merit. However, were I to set out to make poor butter, the first thing I should do would be to let the milk (if set in pans) stand until it was covered with white spots, and the next would be to allow the cream to remain until it was a mass of fermentation before churning. Then, if the thermometer showed about 70° when inserted in the cream, and the churn smelled decidedly cheesy, I should know I was on the right track. When the butter had 'come' in a soft, 'squashy' mass, I would take it out of the churn and make a feint at washing it with cold water, salt it, and after only half getting out the butter-milk, pack it away. There would be streaks and mottles caused by insufficient incorporating of salt, the remaining buttermilk would soon become rancid (for what more quickly gets to smell old than buttermilk?), the mold spores in the cream (in other words, the bacteria) would begin to get in their work, and I would have poor butter in a very short time."

A Philippine Execution.

The deadly work was generally performed in the cool of morning. That these events were fully appreciated was shown by the presence on the Lunetta of thousands of people. Hundreds of fashionably dressed ladies and gentlemen "graced" the occasion with their presence. For the most part these fashionables came in their equipages. These ladies would stand in their vehicles, determined not to miss any part of the ghastly show. The signal from the commanding lieutenant that the victims were dead was the signal for these delighted lady spectators to wave their handkerchiefs or parasols as evidence of their satisfaction.

As a general thing these were frightfully gruesome affairs. There was a firing squad of five for each unfortunate. This squad of executioners would be stationed about ten paces immediately to the rear of their human target. In most instances the soldiers constituting the firing squad were natives. They were secretly in favor of the rebellion, and no member of the squad cared to fire the fatal shot. Consequently each man would aim for the arm or leg. This, of course, only added to the horror of the affair. There was one occasion when thirteen leading members of the secret revolutionary society, the Catapunan, were executed. There was not a single instance at this execution where the unfortunate was killed by the first volley. In a majority of cases three or four volleys were required, and in one instance five volleys were fired before the surgeon declared the man dead. The announcement that all were dead was the signal for music by the band—gay, triumphal music.—Joseph T. Mannix, in American Monthly Review of Reviews.

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Child
Can
Run It.

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with ease," writes C. L. Fairbanks, Springfield, Vt. Close skimming, small cost for repairs, and ease of cleaning are the qualities which commend them to all users.

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INSECTS

Will not touch trees treated with VITA-NOVA.
One dollar's worth treats twenty-five trees; last four years.
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Fig. 1

The
Truthful
Differences
between
Cream
Separators

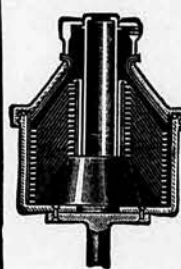


Fig. 2

The cut on the left (Fig. 1) is that of the Improved United States Separator bowl. It illustrates the three compartments. The arrows show the triple course of the milk through the bowl. The long journey of the milk is the cause of its wonderfully clean separation. Its *protecting patents* prevent this method being used by other machines. It has but three compartments to clean. It is mounted in the most perfectly constructed and easiest running machinery known. It excels all others in every point. It has a capacity of 700 lbs. per hour at 8,200 revolutions per minute. It is 5 1/2 inches at its greatest diameter. The Improved United States Separator holds the record for the best average separation.

The cut on the right (Fig. 2) is that of the cumbersome "disc" pattern. It has forty (40) discs or tin plates within the bowl. Its claimed capacity is 700 lbs. per hour, but it falls short of this. It is 7 inches at its greatest diameter, which is at the top, which makes it top-heavy, and therefore gets out of balance quickly. It claims to have a speed of 6,000 revolutions, but never will consent to make tests at that speed, but insists upon running from 7,700 to 9,000 revolutions, which is an admission that it cannot do good work at its advertised low speed.

The above cuts are drawn on same scale. Fig. 2 is over one-fifth larger in diameter, and therefore the periphery or circumference of Fig. 2 travels much farther than Fig. 1, and at Fig. 2's lowest test speed (7,700 revolutions) it travels as fast as Fig. 1 would travel if it was making 9,240 revolutions. Fig. 2's actual speed of circumference when truthfully stated is faster than that of Fig. 1. It follows, then, that Fig. 1 runs easier than Fig. 2; it is smaller in diameter; it is not as heavy, and does not have forty discs to shuck and get out of balance.

The Improved United States Separator is so much superior that its competitor's stock in trade seems to be to exaggerate and misrepresent—giving their speed much less than it is, and illustrating bowls that are smaller than theirs as nearly twice as large.

The Improved United States Separator states things truthfully and stands by its printed instructions.

VERMONT FARM MACHINE CO.
BELLOWS FALLS, VT.

The Veterinarian.

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

HEAVES.—I have a nine-year-old horse that had distemper two years ago; since that time he breathes very hard and loud when pulling hard or when unusually exercised. The horse seems to suffer no inconvenience, is in good condition otherwise, and stands work well. It only sounds bad to hear him breathe, and ruins him for market.

Answer.—Your horse probably has heaves, for which there is no cure. You can relieve the animal by feeding concentrated (not bulky) and easily digestible, laxative food, and by working him regularly. A more detailed article on the subject of heaves was published in this column just a few weeks ago.

DISLOCATION OF SACRUM.—I have a large red four-year-old cow, with calf about six weeks old, which has lost most use of her tail. The bridge or arch of tail seems to be mashed down. She cannot raise tail to void. Is running with a few cows and bull. The trouble is of about two or three weeks' standing. Has not come in heat yet. Coats, Kas.

Answer.—This is probably a dislocation of the sacrum, the bone of which the tail bones are a continuation. This causes a pressure to be exerted on the end of the spinal chord and thus explains the resulting paralysis. I would advise fattening the animal for beef. This condition sometimes results from calving. Such cows should never be bred again. If necessary, while fattening the animal, the feces should be removed by hand, as occasion requires.

PROLAPSUS OF ANUS.—I have a Poland-China sow which has a fleshy substance protruding from the anus. I noticed it the first time about two weeks ago and thought it was part of the rectum forced out. It was shaped like a medium-sized flat tomato, very soft, spongy like, and of a light reddish color. I put it back in place, but she would force it out as soon as I let go of it. She managed to force out a little more every day, and now it is about two inches long, but not so large around as it was in the first place—only about one and one-fourth inches in diameter. It looks dark red and is of a solid fleshy substance now, bleeding some at times, with only a small opening in it, which is shown by the droppings. The droppings look like that passed by a pig about two months old. The sow seems to be perfectly healthy every other way, eats hearty and takes plenty of exercise. I feed her light slop made of shorts, corn chop, milk and water, very little corn, and she has good alfalfa pasture. She is a little over a year old. She farrowed a litter of pigs on the 20th of last April and is suckling them now. She is not fat but in good condition. Templin, Kas.

Answer.—Your sow has what is known as a "prolapsed anus." This affection is produced by various causes. In this case it was probably an indirect result of parturition. Wash the parts carefully with lukewarm water, and then, by exerting pressure with the palm of the hand, gently force the organ into its natural position. If the parts are greatly swollen, wash them with a 3 per cent. solution of alum in water, and then press them into place. Repeat this operation as often as necessary to keep the prolapsed anus in place. This may be once or a dozen times a day. Keep careful watch of the animal, and you will have no trouble in bringing about complete recovery. If the animal is constipated, and strains much, aid her passages with cool water clysters or injections. Your feeding is all right.

A Born Politician.

While a group of gentlemen were discussing the tact and good taste shown by Mayor Maybury in welcoming the numerous conventions that assemble in this city, a Detroit physician just back from the meeting of the National Medical Association in Denver, told of the address with which Gov. Adams welcomed that body.

"It was one of the neatest and most effective I ever listened to," said the doctor. "I must detract from it somewhat because I cannot give his exact language, but he told us that his con-

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dition had much to do with his faith in schools and systems. When he felt lonesome and forsaken, when the newspapers, the politicians and the disappointed turned their pens and tongues and scalping knives upon him, because he was not just as wise as they would have been in the conduct of his office and the making of appointments, then he felt the need of the soothing, sympathetic treatment of the Christian scientist and faith cure. When he was in what might be termed the loafing, novel-reading degree of invalidism, he called in his homeopathic friends, their remedies seeming as pleasant as their gentle touch and manners, and their dissertation upon the power of atoms as fascinating and convincing as a chapter from Tyndall or Hugh Miller. But so powerful was the influence of youth and early training that when he was stricken with a real ache, when he felt that there might be a call to close his account, he sent for the old regular calomel doctor and wanted him quick.

"Did you ever hear anything smoother or more prettily put from any politician? He patted every school of healers on the back and offended none of them."—Detroit Free Press.

How Time is Reckoned in China.

An interesting popular account of the curious and somewhat complicated methods of reckoning time in China and of predicting events is contributed to the Revue Scientifique (Paris, March 5) by M. Paul d'Enjoy. It appears that the Chinese name their years instead of numbering them, and the names, which are determined by numerical sequence, are supposed to have prophetic meaning. Curiously enough the name of the present year, as M. d'Enjoy shows, corresponds quite well with the political troubles that threaten the Chinese empire. We translate below a large part of the article. Says the French writer:

"The Chinese 'century,' or cycle, is composed of sixty years; it is called Luc-Giap, which means 'the six decades.' In China the years are not numbered, they have names. The names are formed by means of combining two words—the first taken from a series of ten expressions denoting inert materials of the earth, and the second from a series of twelve names of living animals.

"The century is divided into two distinct sets of periods, of ten and twelve years each, respectively. By an ingenious combination of the two sets of names appropriate to these series the names of the individual years are formed."

The ten terms applied to the years of the first series of periods (giap, at, binh, dinh, etc.), mean respectively "dead-wood," "glowing-wood," "outer fire-place," "inner fire-place," "fallow land," "cultivated land," "natural mineral," "manufactured mineral," "ordinary water," "potable water."

Says the writer: "As can be seen, the terms are in pairs. They are arranged on a unique plan of antitheses * * * so that in reality the decimal period is composed of five fundamental expressions.

"These material principles constitute the primordial elements according to the Chinese theory of the terrestrial world—wood, fire, earth, mineral and water.

"In the twelve-year period the years are named for the rat, the ox, the tiger, the hare, etc., which are also the twelve signs of the Chinese zodiac, and by the combination of the two names which each year possesses—one by virtue of its position in the ten-year period and one for the twelve-year period—each of the sixty years in the cycle has its distinctive name.

"If, thus, it happens at the outset of each cycle, we begin the two periods together, it is easy to name the years.

"The first will be Glap-Ti, that is, the year of dead wood and the rat—a conjunction that denotes a fatal year, according to popular superstition. * * *

"The second will be At-Suu, the year

of shining wood and the ox, a favorable combination. * * *

"Thus in order we proceed until we reach the eleventh year, when the decimal series has expired, while the duodecimal period has yet two terms remaining. We must thus go back to the first term of the decennial division to join it to the eleventh of the duodecimals. * * *

"Owing to the course of these two unequal series of terms there occurs, as the years go by, a constant variety of compound names, and we can show arithmetically that each double name appears only once every sixty years, that is to say, only once in the course of a Chinese cycle, so that every year in the cycle has its distinct individual name.

"The year 1897 was the thirty-fourth of the seventy-sixth cycle of the Chinese era, called Dinh-Dau. It is the year of the interior fire-place and the chicken; that is to say, according to popular superstition, an epoch of calm.

"The year 1898 (Mo-Tuat, fallow land and the dog) indicates that all the energy of the nation will turn from tilling the soil toward vigilance and the care of the home, in view of foreign threats.

"This is the way the Chinese predict the future, and those of us who smile skeptically at their innocent superstitions sometimes accept still more gross errors, so true is it that in the human mind the germ of primitive religion is not yet dead."—Translated for the Literary Digest.

The Toddy Tree.

Nature has her rum shops, her saloons. She produces plants which devote themselves to the manufacture and sale of intoxicants. The South American toddy tree it well known to naturalists. It is well known also the South American beetle, the Oryctes Hercules. When the latter goes on a spree, he never goes it alone, after the unneighborly habit of the human drunkard. He collects his friends and acquaintances to the number of thirty or forty; the whole crowd run their short horns through the bark of the toddy tree, revel in the outflowing juices, and, while inebriated, are easily caught by the human natives.

The toddy tree parts with its liquor free of charge. There are other plants which are less generous. They exact no less a penalty than the death of the unfortunate drunkard. And what do they do with the body? Strange as it may seem, they eat it. In this manner they obtain the food which nourishes them and sustains their healthful existence.

At the end of each of their long green



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\$50.00. Strictly up-to-date. Covered by binding guarantee. Has all the good points and late improvements of all high-grade bicycles with the defects of none. Our SPECIAL Bicycle at \$19.75 is made by one of the largest, oldest, best known and most reliable bicycle makers in America. The identical same bicycle as is sold everywhere under their special name and name plate at \$40.00 to \$50.00, nevertheless. The name of the maker is a household word among bicycle riders. You will recognize the bicycle the moment you see it as the same high-grade bicycle sold everywhere at \$40.00 and upwards. In offering \$,000 at the unheard of price of \$19.75, we are pledged not to use the maker's name or name plate.

DESCRIPTION. Throughout, only first-class mechanics are employed and the finish is such as can be found only in the highest grade wheels. FRAME is 24 inches deep, true diamond, (Ladies' is 22 inches, curve shape with two center braces) 1 1/2-inch highest grade imported German seamless tubing. FORK CROWN, drop forged, highly polished and finished and nickel-plated. HANDLE-BARS, very latest and best wood or nickel, up or down curve or ram's horn. WHEELS, highest grade, 28-inch. SPOKES, highest-grade, 14-16 swaged. HUBS, latest large tubular, turned from bar steel. RIMS, highest grade non-warpable wood. TIRE, our own special guaranteed strictly high-grade single tube pneumatic, complete with pump and repair kit. CRANKS, highest grade forging, 6 1/2-inch throw, highly nickel-plated. PEDALS, handiest and best rat trap. BEARINGS, highest grade tool steel, highly finished. SPROCKETS, finest forgings, heavily nickel-plated, detachable. SADDLE, strictly high-grade, padded. Weight, 25 lbs. Full ball bearing with ball retainers throughout. Finished in the highest possible enamel in blue, black or maroon, and shipped complete with tool bag, pump, wrench, oiler and repair kit.

OUR GUARANTEE. We issue a written binding, one year guarantee, during which time if any piece or part gives out, by reason of defect in workmanship or material, WE WILL REPLACE IT FREE OF CHARGE. With care the bicycle will last 10 years. State whether Ladies' or Gents', kind of handle bars and color of finish and we will send you the bicycle by express C. O. D. subject to examination, you can examine it at the express office and if you find it equal to any bicycle you can buy elsewhere for \$40.00 to \$50.00, and such a bargain as you never saw before, pay the express agent the balance, \$18.75, and express charges. OUR FREE BICYCLE CATALOGUE shows a complete line of bicycles at \$18.95, \$19.75, \$22.50, etc. Also a full line of bicycle sundries, bicycle clothing, etc. **SEND FOR IT.**

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SEARS, ROEBUCK & CO., (Inc.) Fulton, Desplaines and Wayne Sts., CHICAGO. (SEARS, ROEBUCK & CO. are thoroughly reliable and for \$19.75 this is surely a wonder bicycle.—EDITOR.)

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leaves these plants have a pitcher-shaped receptacle. We might style this the growler, but it never needs to be rushed. It is always full of what with special appropriateness might be called bug-juice—a watery liquor, sweet to the taste and inebriating to the senses. Only in fine weather is the growler open for business. On rainy days it is firmly shut up to keep out the rain that would dilute and spoil the contents. Nature's saloon-keepers do not water their stock.—Lippincott's.

The war will give Decoration day a new and stronger position among the national holidays, and a profounder significance to those who will have new graves to decorate, fresher grief to mourn over, dearer memories to revere, and later deeds of heroism to commemorate.

For sweet mercy's sake be patient, kind and gentle to the horses that are now such willing, faithful, hard-working helpers.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, June 27.—Cattle—Receipts since Saturday 2,896; calves 182; shipped Saturday, 399 cattle; no calves. The market was firm and active. The following are representative sales:

SHIPPING AND DRESSED BEEF STEERS.			
No.	Ave. Price.	No.	Ave. Price.
42.....	1,250 \$4.85	51.....	1,401 \$4.75
60.....	1,384 4.75	88.....	1,216 4.70
57.....	1,260 4.65	69.....	1,165 4.63
28.....	1,017 4.55	20.....	1,112 4.50

WESTERN STEERS.

80.....	1,289 \$4.55	176.....	1,027 \$4.50
38.....	1,245 4.40	10.....	1,217 4.30
4.....	1,117 4.00		

NATIVE HEIFERS.

3.....	880 \$4.75	27.....	793 \$4.72½
1.....	950 4.10	1.....	670 4.00

NATIVE COWS.

2.....	1,040 \$4.00	1.....	1,000 \$3.65
2.....	1,185 3.75	13 yrs.....	995 3.30
1.....	1,300 3.50	2 spg.....	995 3.25
4.....	680 3.00	1.....	1,050 2.75

NATIVE STOCKERS.

5.....	896 \$5.25	24 yrs.....	510 4.95
50.....	636 4.60	1.....	591 4.15
30.....	742 4.25	4.....	777 4.15

Hogs—Receipts since Saturday, 6,704; shipped Saturday, none. The market was 5 to 7½c lower with a few exceptions 10c off. The following are representative sales:

62.....	283 \$3.95	57.....	318 \$3.87½	70.....	262 \$3.85
71.....	287 3.85	80.....	270 3.85	74.....	260 3.82½
52.....	312 3.82½	77.....	275 3.82½	68.....	260 3.80
69.....	251 3.80	66.....	281 3.80	64.....	264 3.77½
36.....	221 3.77½	77.....	274 3.77½	77.....	229 3.75
73.....	224 3.75	61.....	222 3.75	71.....	241 3.72½
76.....	237 3.70	68.....	217 3.70	68.....	205 3.70
63.....	230 3.65	67.....	206 3.65	84.....	194 3.65
67.....	230 3.65	36.....	199 3.65	14.....	175 3.62½
72.....	201 3.62½	66.....	209 3.62½	95.....	161 3.60
7.....	211 3.60	49.....	174 3.60	92.....	159 3.57½
26.....	169 3.57½	7.....	152 3.57½	78.....	166 3.55
49.....	165 3.55	40.....	194 3.55	105.....	166 3.52½
2.....	175 3.50	6.....	188 3.45	2.....	170 3.45
26.....	125 3.40	14.....	136 3.40	16.....	148 3.40
14.....	132 3.35	8.....	100 3.35	29.....	121 3.30
28.....	115 3.30	12.....	129 3.30	17.....	131 3.25
4.....	110 3.25	2.....	125 3.25	1.....	140 3.00

Sheep—Receipts since Saturday, 4,472; shipped Saturday, 377. The market was weak to 10c lower. The following are representative sales:

6 spg. lbs.....	71 \$4.25	31 nat. yrl.....	70 \$4.75
122 nat. sh.....	90 4.75	947 Arizona.....	81 4.40
651 T. sheep.....	83 4.25	55 feeders.....	76 3.65
644 T. t. bks.....	55 3.50	13 culls.....	71 2.25

St. Louis Live Stock.

ST. LOUIS, June 27.—Cattle—Receipts, 2,800; market strong to 10c higher; shipping steers, \$4.50@5.25; light steers to dressed beef grades, \$4.00@5.00; stockers and feeders, \$3.50@4.50; cows and heifers, \$2.00@4.70; Texas and Indian steers, \$3.30@4.10; cows and heifers, \$2.40@3.50.

Hogs—Receipts, 3,000; market steady; yorkers, \$3.70@3.80; packers, \$3.80@3.90; butchers, \$3.85@3.90.

Sheep—Receipts, 2,000; market steady; native muttons, \$3.00@4.85; lambs, \$4.85@5.85.

Chicago Live Stock.

CHICAGO, June 27.—Cattle—Receipts, 15,000; market strong; beefs, \$4.00@5.25; cows and heifers, \$2.25@4.70; Texas steers, \$3.60@4.35; stockers and feeders, \$3.65@4.70.

Hogs—Receipts, 48,000; market mostly 10c lower; light, \$3.60@3.80; mixed, \$3.70@3.85; heavy, \$3.70@3.90; rough, \$3.70@3.80.

Sheep—Receipts, 13,000; market strong; native, \$3.25@5.15; western, \$4.40@5.10; lambs, \$4.00@5.85.

Chicago Grain and Provisions.

	June 27.	Opened	High'st	Low'st	Closing
Wht.—June.....	80	80	78¾	78¾	78¾
July.....	72½	73¼	71	71	71
Sept.....	66½	67½	66¾	66¾	67½
Dec.....	67½	68	67½	67½	67½
Corn—June.....	31¼	31¼	31¼	31¼	31¼
July.....	31¼	31¼	31¼	31¼	31¼
Sept.....	32½	32½	32½	32½	32½
Oats—June.....	22½	22½	21¾	21¾	21¾
July.....	22½	22½	21¾	21¾	21¾
Sept.....	20½	20½	20	20	20
Pork—June.....	9 57½	9 70	9 47½	9 52½	9 52½
July.....	9 57½	9 70	9 47½	9 52½	9 52½
Sept.....	9 67½	9 82½	9 62½	9 57½	9 57½
Lard—June.....	5 57½	5 62½	5 52½	5 55	5 55
July.....	5 57½	5 62½	5 52½	5 55	5 55
Sept.....	5 67½	5 72½	5 62½	5 63	5 63
Ribs—June.....	5 40	5 47½	5 35	5 37½	5 37½
July.....	5 40	5 47½	5 35	5 37½	5 37½
Sept.....	5 45	5 55	5 42½	5 45	5 45

Kansas City Grain.

KANSAS CITY, June 27.—Wheat—Receipts here to-day were 26 cars; a week ago, 22 cars; a year ago, 33 cars. Sales by sample on track: Hard, No. 1, nominally 78c; No. 2 hard, 75c@78c; No. 3 hard, 73c@75c; No. 4 hard, 68c@73c; rejected hard, 67c. Soft, No. 1 red, nominally 75c; No. 2 red, nominally 72c@75c; No. 3 red, 69c@71c; No. 4 red, nominally 63c@65c; rejected red, nominally 60c. Spring, No. 2, nominally 70c; No. 3 spring, nominally 65c; rejected spring, nominally 60c.

Corn—Receipts here to-day were 76 cars; a week ago, 64 cars; a year ago, 110 cars. Sales by sample on track: Mixed, No. 2, 28c@28½c; No. 3 mixed, 27c@28c; No. 4 mixed, 26c; no grade, nominally 20c@23c. White, No. 2, 28c@29½c; No. 3 white, 28c@29c; No. 4 white, 23c.

Oats—Receipts here to-day were 7 cars; a week ago, 7 cars; a year ago, 7 cars. Sales by sample on track: Mixed, No. 2, nominally 25c; No. 3 mixed, 24c; No. 4 mixed, nominally 23c. White, No. 2, nominally 27c; No. 3 white, 26c; No. 4 white, nominally 25c.

Rye—No. 2, nominally 39c@40c; No. 3, nominally 38c; No. 4, nominally 37c.

Hay—Receipts here to-day were 31 cars; a week ago, 10 cars; a year ago, 17 cars. Quotations are: Choice prairie, \$8.00; No. 1, \$7.50; No. 2, \$7.00; No. 3, \$6.50; choice timothy, \$8.50; No. 1, \$7.50@8.00; No. 2, \$7.00@7.50; clover and timothy, No. 1, \$6.50; No. 2, \$6.00; pure clover, \$5.50@6.00; packing, \$2.50@3.00.

Kansas City Produce.

KANSAS CITY, June 27.—Eggs—Strictly fresh, 8c per doz.

Butter—Extra fancy separator, 14c; firsts, 12c; dairy, 10c@12c; store packed, 10c.

Poultry—Hens, 6c; broilers, 11c per lb.; roosters, 12c each; ducks, 5c; young ducks, 10c; geese, 4c; goslings, 10c; hen turkeys, 7c;

young toms, 6c; old toms, 6c; pigeons, 75c per dozen.

Small fruits—Strawberries, Colorado, fancy \$1.00@2.00. Blackberries, fancy, \$1.50 per 24-box crate. Gooseberries, home grown, \$1.10@1.25 per crate. Raspberries, red, home grown, \$2.50@3.00 per 24-quart crate; black, shipped, \$1.50; home grown, \$1.40@1.60. Currants, home grown, \$1.50 per crate. Cherries, home grown, \$1.00@2.00 per crate.

Vegetables—Cauliflower, 75c@1.00 per doz. Asparagus, 25c per doz. Tomatoes, 50c@55c per 4-basket crate. Cucumbers, 40c 1-3 bu box. Green peas, \$1.00@1.25 per bu. Wax beans, 85c@1.25 per bu. Lettuce, home grown, 15c per bu. Onions, new, 75c per bu. Beets, 25c per 3 doz bunches. Cabbage, home grown, \$1.75 per 100-lb. crate. Celery, 20c@25c per doz.

Potatoes—New, 50c@55c per bu.; old northern stock, fancy, sacked, Burbanks, 70c@80c; choice to fancy mixed, bulk, 50c@60c; Minnesota and Dakota, bulk, 60c.

Will some one define the difference to the common people between granting patents of nobility and lordly estates to the favorites of kings, and granting princely franchises, with their power to plunder, to the favorites of political parties?—Ex.

A Low Wagon at a Low Price.

The money-making farmer of to-day wants a low built, easily loaded, easily unloaded, light draft, powerful short turn "Handy" farm wagon; a wagon that will save the farmer's own back, save his horses, save his hired labor and save his money.



This wagon is built by the Empire Manufacturing Co., Quincy, Ill. It is only 25 inches high with 4-inch tired wheels, and is sold for the low price of \$19.95. This firm also manufacture metal wheels any size, any width of tire, hubs to fit any sized axle. Write for catalogue.

THE STRAY LIST.

FOR WEEK ENDING JUNE 16, 1898.

Smith County—Jno. A. Crabb, Clerk.

MARE—Taken up by J. E. Jeter, in Pawnee tp., May 16, 1898, one bright bay mare, 4 years old, old scar on right hind leg at hock joint; valued at \$25.

Pratt County—John Mawdsley, Clerk.

HORSE—Taken up by Charles H. Miller, in Paxon tp., June 8, 1898, one gray horse, weight 850 or 900 pounds, harness marks, had leather halter on; valued at \$15.50.

Linn County—C. O. Hoag, Clerk.

MARE—Taken up by B. G. Iliff, in Mound City tp., May 28, 1898, one light bay mare, about 7 years old, about 14 hands high, weight about 850 pounds, broken to harness, mane roached and tall clipped, no other marks or brands; valued at \$20.

FOR WEEK ENDING JUNE 23, 1898.

Labette County—E. H. Hughes, Clerk.

MARE—Taken up by James Kinnaman, in Mound Valley tp. (P. O. Mound Valley), May 16, 1898, one dark bay mare, 2 years old, with slight scar on left thigh; valued at \$15.

HEIFER—Taken up by W. J. Kabrey, in Oswego tp. (P. O. Oswego), June 2, 1898, one small black 2-year-old heifer, white spot back of legs and some white in bush of tale, no marks or brands; valued at \$12.

Neosho County—B. W. Garvin, Clerk.

FILLY—Taken up by E. W. Wheeler, in Big Creek tp. (P. O. Odense), May 27, 1898, one dark bay filly, about 2 years old, white spot in forehead and one white hind foot.

FILLY—By same, one bright bay filly about 2 years old, foretop clipped, no marks or blemishes on either; both are valued at \$27.50.

Sumner County—W. E. Wood, Clerk.

MARE—Taken up by James Craig, in Falls tp. (P. O. Corbin), June 4, 1898, one bay mare, 15 hands high, weight 900 pounds, brand L on right shoulder, white on top of shoulder and mane; valued at \$25.

McPherson County—C. M. Gray, Clerk.

HORSE—Taken up by E. E. Blake, P. O. Galva, May 12, 1898, one bay horse, 4 years old, weight about 800 pounds, white hind feet, star in forehead; valued at \$20.

FOR WEEK ENDING JUNE 30, 1898.

Linn County—C. O. Hoag, Clerk.

HORSE—Taken up by Hiram Speaks, in Potosi tp., May 28, 1898, one light gray horse, 17 hands high, no brands, lump on breast size of hen's egg; valued at \$15.

Cherokee County—S. W. Swinney, Clerk.

MARE—Taken up by John W. Newton, in Cherokee tp. (P. O. Weir City), June 13, 1898, one bay mare, 15 hands high, dapple spotted in front; valued at \$50.

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The Poultry Yard

KANSAS STATE POULTRY ASSOCIATION.

President, A. M. Story, Manhattan.
Secretary, J. W. F. Hughes, Topeka.

THE POULTRY HOUSE.

By Prof. Clinton D. Smith, Michigan Experiment Station.

Whether the main object in keeping poultry be production of eggs or fattening growing fowls, the success of the enterprise depends in no slight degree upon the location and arrangement of the house and yard. In the first place, the lands upon which the establishment is placed must be dry, elevated and well drained. All breeds of chickens thrive better on sand or sandy loams than on clay, and the larger breeds, feathered as some of them are to the feet and even to the end of the toe, cannot endure confinement to damp localities. In the next place, the ground should slope to the south or southeast. Nature's great germ destroyer is the sunlight. Provision should be made, therefore, to give free access to the sunlight to every inch of floor space in the hen house. The hen yard should be as far as possible on the south side of the house and should slope away to the south or southeast. The windows must, of course, be on the south side and on the south side alone, so that the earliest beams of the morning sun may enter, and the house be light, airy and dry. The health of the flock depends on dryness, warmth, and plenty of sunlight.

RUNS.

The poultry houses should be so placed as to allow for large runs. On the ordinary farm it is necessary to keep the chickens confined for some portion of the year, to prevent injury to the garden or growing field crops. Large runs should therefore be provided that the fowls may be induced to take that abundant exercise which experience shows to be essential to prolificacy.

CONVENIENCE.

Finally, the convenience of the owner is worthy of some consideration. During certain seasons the poultry house must be visited not once but many times every day, and a great loss of time and work will be avoided if it is conveniently located with reference to the other buildings on the farm. It should not abut upon the garden nor should it be connected under the same roof with the horse stalls, sheep sheds, or cattle barns. It would better be a distinct feature of the farm equipment, separate from all other buildings. Fumigation can then be given when necessary without interfering with the other buildings, and the ubiquitous hen lice will not cause discomfort to the farm stock.

A COLLEGE HEN HOUSE.

In the construction of the hen houses at the college these general principles were regarded. It was necessary to provide accommodation for a large number of breeds to be used in giving instruction to the students as to varietal differences. The first hen house was, therefore, so planned as to allow for the housing of a large number of breeds and a smaller number of hens than would be recommended for commercial purposes. The horizontal dimensions of the building were forty feet long east and west by twenty-four feet north and south. An alleyway three feet and six inches wide extends east and west through the center of the building, with eight narrow pens on either side. A window hung on hinges at the top is provided for each pen. Necessarily the windows on the north side of the alley face the north. This is a very unfortunate feature of the building for winter management. These northern windows become coated with frost and even with a thick layer of ice, which makes the air of the whole house damp and chilly. Flight holes are also provided, protected by suitable swinging boards which can be opened and closed at will.

INTERNAL ARRANGEMENT.

The internal arrangement of the pens is such as to allow a complete view of the interior of each from the alleyway and farther for the removal of the eggs without entering the pens. The nest boxes are placed against the partition with holes cut into the alley through which the eggs are removed. These nest boxes have a sloping cover upon which rest the removable roosts. These roosts are made of two by fours, rounded on top and held together by cross boards. Nothing in the pens is fastened to the walls. Whenever it is desired to clean and disinfect the house all of the fixtures may be removed to be cleaned and white-washed outside of the building. The inside of the pens are

thus left free of obstructions and ready for thorough disinfection.

CEMENT FLOOR.

The floor is concrete. Three inches of coarse gravel mixed with cement, in the proportions of seven of the former to one of the latter, were first laid down. The gravel and cement were mixed dry, then moistened only, thoroughly mixed and very firmly packed in place. This was the foundation for the floor. For the top dressing (the floor itself) a mixture of two parts sharp sand and one of Portland cement, mixed to thin mortar, was spread on evenly and the surface troweled smooth. One barrel of Portland cement will lay seventy square feet of floor.

A FARMER'S HEN HOUSE.

Such a hen house, while useful as quarters for a few individuals of a large number of breeds, is not well adapted to the use of either the general farmer or the poultryman. When, therefore, in the spring of 1895, by reason of changes in other buildings, it became possible to build another, one was constructed having in view the wants of the practical farmer. The entire house is forty-six feet long by nineteen and one-half feet wide, inside measurements. It is divided by cross partitions into four equal and similar pens, one of which may be described, since it shows how cheaply and simply an efficient poultry house may be built. The long slope of the roof is towards the north. The south side, instead of being vertical, is thrown back twenty-five degrees in order that the window may be approximately at right angles to the rays of the sun at noon during the cold months of winter.

The floor of the house is made of gravel mixed with enough fine earth to pack solid. Such a floor is not only cheaper than cement or lumber, but it is in many respects better. It is drier, furnishes dust baths for the fowls, and, all things considered, healthier.

The framework consists entirely of two by fours. On the north side the height of the eaves is but four feet. The roof is flat, the pitch not exceeding one quarter. Seven feet and eight inches above the floor horizontal studding were put across from the top of the windows on the south side to the rafters, and the ceiling was nailed to these studding. The greatest height of the room is, therefore, seven feet and eight inches, and from this runs down to three feet and one-half on the north side. Everything in the pen is removable.

The window in the west pen, Pen 1, was six feet and three inches wide by five feet and eight inches high, containing 35.41 square feet. In the next pen east, Pen 2, the window was but five feet and three inches wide and contained, therefore, 29.75 square feet. For Pen 3 the window was but four feet and three inches wide, having an area of but 24.08 square feet. Fairly good ventilation was secured by wooden boxes, six inches square, extending from the ceiling to a foot and one-half above the roof. These ventilators were provided with slides, that the amount of air escaping could be regulated.

TEMPERATURE IN THE HEN HOUSE

Maximum and minimum thermometers were placed in each pen and their readings noted daily at the same hour

through the winter. In the following table there is given the maximum and minimum temperature and the difference for the day in each week showing the greatest variation. The figures given are degrees Fahrenheit:

	Pen 1.			Pen 2.			Pen 3.		
	Max.	Min.	Var.	Max.	Min.	Var.	Max.	Min.	Var.
January 13.....	48.5	35.	13.5	48.	36.	12.	49.5	36.	13.5
" 16.....	58.5	28.	30.5	52.	33.5	18.5	53.	32.	21.
" 23.....	61.5	38.	23.5	60.5	40.	20.5	57.	36.	21.
" 30.....	64.	36.	28.	62.	41.	21.	56.5	40.5	16.
February 11.....	50.5	28.5	22.	55.	33.	22.	57.	32.	25.
" 16.....	52.5	28.	24.5	52.	32.	20.	58.	30.	28.
March 1.....	47.5	24.	23.5	51.5	29.5	22.	55.	30.5	24.5
" 5.....	51.	29.	22.	46.	32.	14.	43.	38.	5.
" 14.....	53.	33.	20.	49.	41.	8.	54.	33.	21.
" 20.....	56.	28.	28.	52.	46.	6.	59.	34.	25.

The results are inconclusive, but it is interesting to note that in Pen 3 the thermometer rarely fell more than two degrees below freezing, while in the pen with the largest window (Pen 1) it fell on several occasions to 22° and often to 28°. On the coldest days of winter, February 16 and 17, the minimum thermometer in Pen 1 stood at 22°, in Pen 2 at 24.5° and in Pen 3 at 27°. The sun shone brightly during the day with a brisk southwest wind. The mercury out doors fell to -22° during the night and rose no higher than -10° during the day on the 16th and 12° above during the day on the 17th. The maximum thermometer in the pen showed the following readings: Pen 1, 54°; Pen 2, 54.5°; Pen 3, 58°.

On the 19th of February (a cloudy day with a southwest wind, following a very cold night in which the thermometer dropped to 4° below), the maximum thermometer in Pen 1 rose to but 37½° during the day, while the lowest reading of the minimum thermometer during the night was 22°. A study of the temperatures in the pens during the winter seemed to indicate that for the cold and cloudy weather of winter the windows in Pen 1 were slightly too large. On the other hand, on clear days the abundance of warm sunshine was heartily enjoyed by the hens. There were no cases of roup among the fowls in any of the pens, nor did any of them suffer with colds indicating any bad effects of extreme variation of temperature.

Deafness Cannot Be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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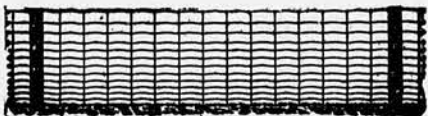
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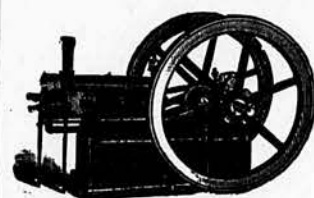
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Chicken Management.

Editor Kansas Farmer:—The Kansas hen has made a record; she is known from one end of the land to the other. But, Mr. Editor, we raise chickens in Nebraska, too. Without trying to figure out how much you beat us in poultry production, I want to predict that either State is suited for the business and that in a few years we will lead all other States. The mild winters, early springs and late falls, besides abundance of the right kind of feed, put us in a position to successfully raise poultry, for which there are good markets either east or west.

An unusually wet spring and an over-supply of rats have been drawbacks this season. Wet seasons, big crops and rats seem naturally to go together, and the best we can do is to make war on the long-tailed nuisance. We find that a good supply of cats, rat dogs and steel traps greatly checks the multiplication of rats. "Rough on Rats" and 22-caliber rifles don't agree with their stomachs. A day set apart (called rat day) is a very good thing. On this day it is our duty to upset their fortifications, dismount their guns and let the rat dog have a chance to clean out their harbors. Persistently, everlastingly keep after them, and they will go hence.

But the weather must be looked after differently. Wet weather and lack of sunshine and exercise have a bad effect on little chicks. A bad soaking and chilling will too often bring on the conditions that are laid to the feed. Bowel trouble with little chicks is more often the direct results of damp quarters, lack of sunshine and exercise than of the right kind of feed. Little chicks are very sensitive to heat or cold, almost as much so as a thermometer. We do not at first notice the effect of a thorough chilling, but in from two to five days they begin to walk as if on stilts and have bowel trouble.

After several years' experience in the poultry business I am convinced that nine-tenths of the ailments of small chicks are caused by other than the kind of feed used. The very best medicine for little chicks is sunshine and exercise. Avoid soft, sloppy feed. Keep them dry, not too warm nor too cool, and success in raising little chicks is realized. Dry is the watchword. I am fully convinced that even the embryo chick in the egg is easily damaged by too much moisture. Why not? It is a live thing and needs natural conditions. I regard the theory of applying moisture to eggs during a season like this as a very absurd idea. Instead of the moisture helping the chick out it helps keep it in; it weakens the chick; it prevents the natural drying down of the contents of the egg and toughens the lining under the shell. If too much moisture has not been used the chick absorbs (takes up) all the life of the lining and leaves the lining in a ripened state; but if too much moisture is used the chick becomes weak in consequence. It absorbs the moisture instead of its natural food (the inside of egg), the chick becomes too large, the air cell too small, and if the chick is able to get out at all it will be weak and lack the vitality to grow and live. It is the same under hens or in incubators. It is the heat that hatches. In airing the eggs we fill the place of sunshine and exercise so needed in chicks already hatched. Keeping the eggs confined too close under hens or in incubators has the same effect as keeping chicks confined too close to a small brooder. They (the embryo chick) need a change of temperature to wake them, cause them to expand, stretch and develop strength. On the other hand, too steady heat and position sets up a dormant condition and the strength and vitality does not mature. M. M. JOHNSON.
Clay Center, Neb.

During the week ending May 21 the receipts of wheat at primary markets in this country were reported to have been 6,015,000 bushels. The break in the market was quickly reflected in the receipts, which for the week ending June 11 were only 1,328,000 bushels.

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