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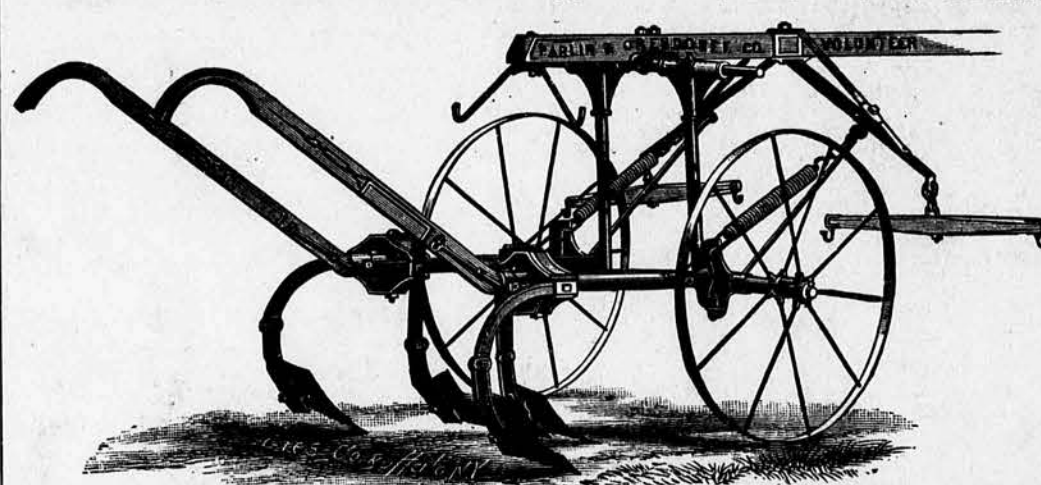
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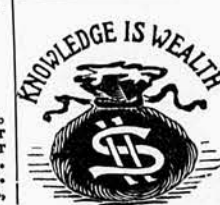
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KANSAS STATE GRANGE.

Address of Wm. Sims, Master of the Kansas State Grange, delivered at the seventeenth regular annual session of that body, held at Olathe, December 11, 1888.

BROTHERS AND SISTERS:—Soon after the close of the great American conflict, in 1865, President Johnson commissioned O. H. Kelly, then in the employ of the Department of Agriculture at Washington, to make a tour of the States to ascertain, if possible, the true condition of their Agricultural resources, and report thereon with such suggestions and recommendations as he deemed advisable, as to the means best calculated to improve the condition of this important industry.

During his travels Mr. Kelly found a general lack of vigor and activity, and much dissatisfaction among farmers, and in the South particularly, a condition which called loudly for earnest consideration and prompt action. The outlook was by no means encouraging, and farmers generally, north and south, were demanding relief from the environments which held themselves and families in the back ground.

The relief demanded, however, was of that general character, which, in his opinion could be secured only through organization, co-operation and systematic working together on the part of those directly interested.

Upon his return to Washington, in 1866, Mr. Kelly, in his official report, made such suggestions and recommendations as he deemed best calculated to meet the demands of the hour; but reserved for those directly interested his well matured plan of organization among farmers, having for its object their educational, moral, social and material advancement. But to perfect his plans, and reach those in whose interest he labored, was no easy task.

Under these circumstances he called a meeting of a few personal friends, and to them submitted a general outline of his proposed organization and plan of work.

They approved in the main, and suggested necessary changes which were at once agreed upon, and on the 4th day of December, 1867, the first Grange of the Order in whose interest we assemble to-day, was instituted, and Brother Kelly directed to proceed with the work of organization.

For the first few years but little progress was made; but after a time when the purposes of the founders became better understood, the demand for organization became general, and was proceeded with at a rate so rapid that proper instruction in the proposed work was almost impossible.

Vague and impracticable theories were at once advanced, and wild schemes, political, business and otherwise, were entered into, and disappointment, loss and general demoralization followed as the natural result of hasty and inconsiderate action.

These reverses, however, were no surprise to those well informed as to the true principles of the order, and the methods necessary to success. They clearly foresaw danger, but were powerless to prevent disaster.

Those having the largest experience were confident that the reverses were but temporary, and the work believed to be necessary to recover lost ground was at once commenced and carried forward by such methods as promised stability, and at a rate which fully met the expectations of those best informed as to the work necessary to make organized effort effective.

PRESENT CONDITION OF THE ORDER.

The biennial period ending with September last, has been one of unusual activity in the work of the order, particularly in the South and East, and extraordinary success has been met with.

During the period under consideration, 346 new Granges have been added to the list, and thousands heretofore dormant reorganized and resumed work, and I now have the pleasure of reporting a greater membership, with more complete organization, and a better outlook for progressive work than for many years. Our finances are in a healthy condition; our membership on the increase; patrons confident, and farmers generally more inclined to consider

the principles and purposes of the order than at any former period in its history.

NECESSITY FOR ORGANIZATION.

Isolation tends to rust and decay. To keep abreast of the times in which we live, we must mingle with the people, consider their customs, and profit by the experience of others. While agriculture is the foundation or basis of all industries in this country, it is by no means independent of other interests, and can never reach its best results unaided by science, culture, and that training which comes largely from association and contact with other industries.

Its votaries should, therefore, profit by the history of the past, which shows the progress of the present age to be largely due to the combined effort of men and woman, exerted through organization—a factor in political economy which no individual or class can in these times well afford to neglect or ignore.

Farmers have been slow to recognize the importance of concert of action; but guided by the experience of others, they now generally concede its necessity, and unite in congratulating Brother Kelly and his associates upon the wise forethought which prompted action, and secured for American agriculture an organization better adapted to its requirements than any yet presented to the farmers of this country; and it but remains for those in whose interest the move was inaugurated, to consider well the suggestions offered, and study with care the plan of action proposed, making such changes in details, if any, as experience may demonstrate to be necessary to meet the conditions and requirements of their respective localities, and make practical application of the same, in the manner and for the purposes for which they were intended, and satisfactory results will certainly be reached at no distant day.

GAMBLING IN STOCK AND PRODUCE.

During the year now drawing to a close the people have been blessed with an abundant harvest. The soil, "from which is derived all that constitutes wealth," has responded liberally to the labors of the husbandman, and but for the improper manipulation of markets by "combines," "trusts" and designing individuals, who defy the law of supply and demand, prey upon the accumulations of others, and seem to regard the products of the farm as the legitimate subject of public plunder, fair prices, in my judgment, would be realized, and producer and consumer alike benefited. I therefore commend to your thoughtful consideration this important subject, and earnestly recommend such action as will place this body, and the people here represented fairly before the country in favor of such legislation as may be found necessary to secure a free, fair and unrestricted market.

Labor as well as capital should receive its just reward, and the products of the former, on the farm, in the shop, or elsewhere, must be protected, if necessary, by law, from the caprice of those who gamble in the same to the serious detriment of the public interest. In short, the common demand for "protection to the weak, and restraint upon the strong," coming as it does from the suffering majority, in whom is vested supreme political power in this country, will most certainly command respectful consideration, and secure the action necessary to common justice at an early day. We must not, however, relax our effort, but continue to keep this important subject prominently before those from whom relief must come—the Legislature.

CO-OPERATION.

as understood and practiced in our order, means a proper and systematic working together for the accomplishment of certain legitimate results unattainable by individual effort. But on this subject I beg leave to repeat, in substance, a report prepared by myself and submitted to the National Grange, a short time ago, to wit:

"History proves that the educational, religious, political, social and material standing of a class or people will, as a rule, be determined by their ability to properly apply the true principles of co-operation to the affairs of life. Without co-operative effort the cause of education must languish, Christianity suffer neglect, the political rights of the people remain unprovided for, and all efforts to improve public, moral and social conditions prove a comparative failure.

"To unity of action has been properly credited the extraordinary progress of the

present age; and while the methods recommended by the Grange do not differ materially from those employed by other classes, they are admirably adapted to the requirements of those engaged in productive industry; are applicable alike to public and private affairs, and may be called into requisition under all the varied circumstances and conditions met with in rural pursuits.

"This order is but the concentration of individual forces subject to direction by proper authority, and its power for good will increase or diminish as farmers extend or withhold their encouragement and support. Numbers give strength and command respect, while unity of action, under proper directions is the prime factor upon which we depend for success."

It has been claimed, and with much force, that farm life in many respects is what we make it. If we choose to stumble along blindly in the well-worn ruts of the past, complaint, fault-finding and general dissatisfaction will be the result. But should we choose the brighter and better way, and unite with our more progressive neighbors, and work with them "for our mutual protection and advancement as occasion may require," we will find it a grand improvement, and our lives will prove a success. And the same may be said of the Grange. Like other organizations and associations it confers benefits chiefly upon those who improve the opportunities offered.

THE GRANGE NOT PARTISAN.

Our order supports no system of religion, and advocates the claims of no political party; yet the principles we teach underlie all true politics, and if properly carried out will tend to purify the whole political atmosphere of the country, for we seek "the greatest good to the greatest number." And we hold that, under our system of government, where the people are sovereign, the duty of the citizen to properly qualify for an intelligent exercise of his right to a voice in choosing those who are charged with the direction of public affairs, becomes imperative, and his duty to take an active interest in the politics of his country equally binding. Less than this would be an impeachment of the theory upon which our government is based, and a standing menace to free institutions. In short, we hold it to be the duty of every citizen to make use of every means at his command to become a politician in the true sense of the term—think for himself, and affiliate with that party which in his judgment is best calculated to carry out his principles.

This done, and the judgment of the people—the great safeguard to free government—will be reached; wise legislation secured, and all the varied interests and industries of the country properly protected and encouraged—which is but the reasonable demand of every good citizen.

COMMITTEE WORK.

Important questions, upon the proper determination of which will depend much as to our future progress, will be submitted to you from time to time during the session, by the standing committees on Good of the Order, Needed Legislation, Insurance, etc., charged with the consideration of the respective subjects assigned to each.

While the subjects embraced in these reports will have received the careful consideration of those having the work in hand, and the conclusions arrived at and recommendations therein contained will, no doubt, reflect the deliberate and well-matured opinions of the respective committees; yet, as the combined judgment of this body is required, and final action on your part necessary to carry into effect any new methods which may be proposed, I bespeak for these reports your deliberate consideration and closest scrutiny, to the end that wise counsel may prevail, and our work redound to the best interest of the order.

LECTURE WORK, OR THE MEANS BEST CALCULATED TO EXTEND THE BENEFITS OF THE ORDER.

How can we best reach the farmer and convey to him correct information as to the importance of our order, and its power for good when properly supported? To which I answer: Through the press; by public lectures, and individual effort. And while the first, in view of the means at our command, is unquestionably the most available, the full fruition of our hopes can never be realized by this method alone. The attention of the people must be secured and their reason appealed to, if we hope to advance. Many who cannot be reached by the method first proposed, and who most need the assistance offered by the Grange, and would

be valuable acquisitions to the order, are ready to listen, and will act when their judgment is convinced.

I therefore earnestly recommend that, while we should, to the fullest extent, make use of the facilities offered by the press of the country to diffuse among farmers necessary information relating to the Grange and its proposed work, that provision be also made for putting the Lecturer into the field and keeping him there during the season which it may be found practical for him to command the attention of those in whose interest we labor, and on whose support our final and complete success depends. This done, and his efforts properly seconded and followed, at once, by personal effort on the part of those now connected with the work, and satisfactory results will most certainly be reached at an early day. I would therefore earnestly urge upon the attention of this meeting the importance of the action suggested, and that ample provision be made for effective work, in case the plan recommended should meet your approval.

The following amendments to the constitution of the National Grange were adopted at the last session of that body, and are herewith submitted for your consideration and the ratification of each, respectfully recommended, to-wit:

1. Amend Article 7 by adding thereto the following: "Provided, That State Granges shall have the power to reduce the fee within their respective jurisdictions to any sum not less than one dollar."

2. Amend Article 1, under the head of "District and County Granges," by striking out the words "not to exceed one in each county," where they occur in the second line of said article.

3. Amend Article 14 by striking out the words "three-fourths" where they occur in the third line of said article, and insert in lieu thereof the words "two-thirds."

4. Amend Article 7 by adding thereto the following: "Provided, That the membership fee for the children of the members of the order, under twenty-one (21) years of age, shall be one dollar."

CONCLUSION.

In conclusion permit me to say, that I regard the work of the session before us as very important, as on the action taken much will depend as to the future progress of the order in this State.

Cheering reports come to us from other States. The order is growing rapidly in other sections and being extended into other countries. The present outlook for progress is encouraging with us, and no time should be lost. Let us, therefore, take prompt action, and by united, intelligent and well-directed effort bring our forces into line and push the work undertaken to the full realization of the reasonable expectation of those who have given to us their confidence, encouragement and support. WM. SIMS.

Cruelty to Animals.

The recent death of Henry Bergh, of New York, calls to mind the vast debt the animal world owes him for his intrepid advocacy of their rights. Yet the function of such minds as Mr. Bergh is often more influential in suggestion than in action. What he does may be much, but what he suggests and incites others to do may be infinitely more. The sturdy Luther wields the battle axe of the Reformation, but the learned and astute Melancthon recruits the army and sustains the warriors. Among the possible outcome of this humane movement for the better treatment of our dumb servants, is their more considerate care when ill. How they then suffer from the coarse, cruel, useless bleedings, blisterings, firing, rowellings, druggings and poisonings is known to many. But in this respect a brighter day has dawned. Years ago Dr. Humphreys with rare professional skill, originated a system of treatment absolutely free from those obsolete cruelties. This system is now found so successful in practice that it is fast wiping out the old barbarism. The intelligent everywhere use Humphrey's Veterinary Specifics for all diseases of domestic animals. The animal world has thus not only gained in relief from barbaric cruelty but in the certainty, safety and rapidity of cure.—*San Francisco (Cal.) Patron & Agriculturist.*

A correspondent of the *Indiana Farmer* advises farmers who live in a neighborhood where hog cholera prevails to prevent their swine from drinking from the running streams, believing that the contagion is often spread along the water courses. Especially is this true where, as is often carelessly done, the carcasses of the dead hogs are allowed to pollute the water.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

FEBRUARY 8, 1889. — Berridge Bros., English Shire Stallions, Lincoln, Neb.

Foreign Markets for American Live Stock.

EDITOR KANSAS FARMER:—When, at the late meeting of the American Short-horn Breeders' Association, the question of how the surplus in the Association treasury should be disposed of, was being considered, one who evidently knew the worth of printers' ink, suggested that it be divided among the newspaper men, and they would soon make Short-horn breeding a more profitable business than at present. The utterance was made only in an undertone and the thought was not formally presented to the meeting; but suppose it had been, where would the "doddies" and the "white faces" be a twelve-month hence?

That surplus, however, is to be otherwise used, but the great, the original, the frightful surplus so often spoken of during the late Presidential campaign remains the same. What shall be done with it, is still a question of interest.

We pride ourselves on living in a land well suited for the rearing of improved stock, but even this happiness has its alloy, for when with favoring soil and climate there is combined American intelligence and thrift, the result as sometimes seen, is a surplus of improved live stock, not always readily sold, except for less than its supposed worth. Looking abroad, however, we see other less favored lands where, but for the expensive and uncertain ways of reaching them, we might find profitable sale for much of our surplus well-bred stock.

In view of this, why should we not favor a reasonable expenditure of public money in establishing better lines of commercial intercourse with foreign countries—the Argentine Republic, for example, and other South American states—so much in need of improved live stock, improved machinery and improved methods of farming generally?

The cost of shipping from New York or Newport News to Buenos Ayres is greatly increased, and the voyage prolonged by the present necessity of re-shipping at Rio Janeiro. Shipments can be made almost as cheaply, expeditiously and as safely by way of Liverpool to Buenos Ayres as by the present accepted route.

But where does this place the North American breeder and shipper as compared with English breeders who claim, so to speak, a first mortgage on the South American trade? Practically they have this, and will doubtless hold it until our statesmen see their way clear to provide a better pathway on the high seas to and from the countries of South America, thereby opening up to the United States an almost boundless wealth of trade in live stock and manufactured products of all kinds.

PHIL THRIFTON,
Springfield, Ill.

Disposing of Old Horses.

The best way to dispose of old horses on the farm is a matter that often stares kindly disposed owners of faithful old servants in the face. Many horses outlive their days of usefulness. They are unable to do any of the hard work that falls to the lot of farm horses, and yet they are liable to live on for several years, and frequently become a charge to their owners and an item of expense. Just what to do with such animals is a question that is not easily answered,

when the matter of right and wrong is considered. When an owner of such a horse has no regard for justice in such a case, it is an easy thing to sell a horse of this kind for a pittance or give it away, but no one with any feeling will do such a thing unless he knows into what kind of hands the horse goes. The kind of men who are ready to get hold of such animals are generally the kind that are not in the habit of treating their horses very kindly. Could some of the farmers who dispose of their decrepit horses follow them into our cities and see how they are treated in the hands of the ash-haulers and scavengers they would never think of letting a horse which they cared for in the least leave the old home for love or money. It is sad to see how cruelly some of the old and broken down nags are treated by men who do not even treat their wives and children decently. When a horse has grown so old that he is of little or no value on the farm, it is far more merciful to kill him by some humane method than to dispose of it to some one else, unless you are confident that the new owner will treat it well and will not let it go into the possession of any one who will not do the same thing. But when a horse has worked hard as long as it could it certainly deserves a green old age, and if the owner can afford it he ought to see that it gets kind treatment and plenty to eat as long as it lives.—*Ex.*

What is the Value of a Good Stallion?

The value of land to a farmer depends upon what that land will produce above the expense incurred in growing and harvesting the crops, says *Herds and Flocks*. The value of a coal mine is in proportion to the net proceeds obtained from it; and so a breeding animal is worth to its owner the price of what it is capable of producing for him. The value of a purely-bred stallion is equal to more than the difference between the selling value of his offspring, at say three years of age, and that of mongrel stock of like age, because the breeding value of his get is greater. But if it be assumed that the young got by the purely-bred stallion is no more than the difference between the selling price of grades and scrubs, the benefits derived from the better blood are so great that the marvel is that all intelligent farmers have not availed themselves of that means for increasing the income from their business. Their failure to use that means much more generally than it has been done is largely due to the fact that comparatively little has been done to show in plain terms just what and how great the benefits from good breeding are. Many people fail to realize, for instance, that in a township where 300 mares are served it would require six stallions to do the work. If 65 per cent. of the mares served produce colts that reach the age of three years, the number of three-year-olds would be 192. The cost of keeping each kind in fair condition is about the same. Mongrel three-year-old colts broken are worth from \$65 to \$95 per head, and the grades will bring \$100 to \$145, making the former worth \$12,675 to \$18,525 and the latter \$19,500 to \$28,275. The pure-bred stallions will thus increase the value of horses in that township from \$6 825 to \$9 750 in the get of one year, from \$1,137 to \$1 625 per stallion. A stallion may be counted on for at least five years of similar service. When he is two years old he should be permitted to serve few mares and at three not more than twelve or fifteen. After that he may be considered sufficiently mature to be allowed to do the service above mentioned. After the age of nine most stallions, if properly kept, will still be fit for efficient service. So that the five

years of service is rather too small an estimate of the serviceable lifetime of an average sire.

The foregoing figures carried through five years made a total of from \$84,120 to \$48,750 increase in the value of the produce of six stallions in the township. Assuming the average cost of the stallions to be \$1,900 and computing the interest on the investment at 7 per cent. for five years, the total cost per stallion is \$2,033. The services a stallion can render out of season and that he is capable of before the age of four and after nine will fairly pay for his keeping. If the mentioned figures be correct the service of a good, pure-bred stallion is worth from \$5,687.50 to \$8,125. Deducting cost and interest there remain \$3,644 50 to \$6,092 gain.

A Chapter on Dehorning.

Mr. Geo. W. Franklin, an Iowa breeder of cattle, thus gave his views on dehorning to the *Kansas City Live Stock Indicator*, two weeks ago:

"The surprising part of this business is, that in the light of a present age surrounded by improvement, education upon every hand, that the cattle had not been deprived of these weapons of barbarism years ago, and that dehorning has come to stay becomes more plainly visible every day. The squeamishness with which the humanitarians were so plentifully endowed at the beginning of this era is fast disappearing, and their arguments grow more gauzy each succeeding year.

"We are told by these over-zealous and wise admirers of non-cruelty to dumb animals that the cattle should be left just as the Lord provided, and that it is wicked and extremely inhuman to improve upon the Lord's created animals. We are also told by another class that the way to deprive the cattle of these horny appendages is to breed them off by infusion of Angus, Galloway, or Red Poll blood. This sounds nice to the ear and looks well upon paper, but when it comes to removing in a few short months the accumulation and improvement in horned animals, viz.: the Short-horn, it will require more than the mere assertion to perfect this method of adoption. These old liners fail to mention or blindly forget that they annually cause as much pain upon the surplus male animals of their herds by emasculation as would be caused by the process of dehorning. They forget when they denounce the principle of improving the Lord's created animals that the mule is a valuable consummation of man's ingenuity and improvement. They forget that Jacob, an obedient servant of God, by his cunning by providing 'rods of green poplar and of hazel and chestnut tree, filled with white streaks, before the flocks in the gutters of watering places,' so that when the cattle came to drink, 'they should conceive and bring forth cattle ring-streaked, speckled and spotted,' for of such was to be his share. Jacob became increased exceedingly in wealth, and the Lord said 'I will be with thee.'

"I believe the Lord provided for us meat and bread, but not as meat and loaves; but in the standing ox and the standing grain, left us to provide means of turning to meat and bread, and has endowed us with ingenuity to improve from time to time upon his created things. The ox as a beast of burden has been replaced by the horse; the ass by the mule, and the razor-backed swine that fed upon the same husks with the prodigal son of Scripture times to that of the improved mortgage-lifter of to-day. These are theoretical reasons why the horns should be removed—now for some practical ones.

"Effect always follows cause, and the

prime cause which affected the downfall of the horns upon my farm was by an accident occurring one October evening over a year ago. While my son, a lad of 13 years, was engaged in putting the cows in the stanchion, a gentle cow with very sharp horns threw her head around at a new and strange heifer that had been introduced that day in the barn, but instead of wounding the heifer her horns pierced the lower abdomen of my son who was standing by her side in the act of closing the stanchion. His bowels gushed forth from a wound one and three-fourth inches long. After seven weeks' confinement he survived. Up to this time I thought dehorning to be useless and cruel. I was immediately firmly and quickly converted and the horns were removed. Some cows were in full milk, some within a few days of calving, and others in all stages of pregnancy, and no ill result followed. Different animals bled and exhibited different signs of pain, the younger animals exhibiting the least signs of pain and the bleeding was less profuse.

"Mark the appearance. The watering tank, the hay rack, the feed bunks and the cattle shed, where the master cows and steers in former times held an absolute monopoly immediately shared to their fellows. Sixty-five dehorned cattle would eat out of the same rack where but twenty head before could gain access. Four at a feed bunk was the average before, and from ten to thirteen after dehorning.

"When a herd has been deprived of its horns there will be no more cases of abortion; no more injured udders caused by hooking; no more monopolizing space at feed and shelter; no more fear of being gored; no more losing fine colts by being gored. We have practical dehorners who have full equipments and tools for dehorning and they keep busy, and I sincerely hope that they may continue until the last horn is consigned to its own."

A Prize of \$100,000

is a good thing to get, and the man who wins it by superior skill, or by an unexpected turn of Fortune's wheel, is to be congratulated. But he who escapes from the clutches of that dread monster, Consumption, and wins back health and happiness, is far more fortunate. The chances of winning \$100,000 are small, but every consumptive may be absolutely sure of recovery, if he takes Dr. Pierce's Golden Medical Discovery in time. For all scrofulous diseases (consumption is one of them), it is an unfailing remedy. All druggists.

The "wool taste," says an exchange, comes not of the touch of the wool or the length of the wool on the sheep, but of the infusion of the intestines into the circulation, which taints the flesh with offensive "wool taste." The lining strata of the intestines prevents the offensive entrance of the excreta into the capillary tubes of the absorbing surfaces. But as soon as the vital powers cease the capacity of resistance ceases and the unpurified excretions are infused into the venous circulation.

How to Reduce Your Expenses.

You can do it easily, and you will not have to deprive yourself of a single comfort; on the contrary, you will enjoy life more than ever. How can you accomplish this result? Easily; cut down your doctor's bills. When you lose your appetite, and become bilious and constipated, and therefore low-spirited, don't rush off to the family physician for a prescription, or, on the other hand, wait until you are sick abed before doing anything at all; but just go to the druggist's and for 25 cents get a supply of Dr. Pierce's Pleasant Purgative Pellets. Take them as directed, and our word for it, your unpleasant symptoms will disappear as if by magic, you will have no big doctor's bills to pay, and everybody interested (except the doctor) will feel happy.

In the Dairy.

THE DAIRY SCHOOL MOVEMENT IN ENGLAND.

We have had dairy schools in Great Britain for thirty-four years past as a matter of history. How far back the practice of receiving pupils in farm dairies commenced it is impossible to say, but in 1854 at the invitation of the Ayrshire Agricultural Association, the late Mr. Joseph Harding commenced teaching the Cheddar system of cheese-making in that country. Public demonstrations were given and lectures delivered; the pupils were numerous and the results eminently satisfactory. Ever since that time the dairy farmers of Southwestern Scotland have from time to time reverted to the same method of instruction for the improvement of their manufacture.

In England the older plan of receiving solitary pupils at the farm houses continued until within a few years ago. The factories have done educational work from the time of their introduction, but its character can scarcely be described, the attempts at teaching have been rarely of honest value; as to principles they have been generally ignored, the manipulation alone being taught, and the effects such as we might naturally expect. In 1884, Lord Vernon opened a school in his factory at Sudbury, offering terms which were within the reach of most people, but the reports of its doings have been somewhat discouraging to the advanced workers in the movement. Still these were not to be daunted, they reappeared in the show yards of the Royal, the Bath and West of England, and the Manchester, Liverpool and North Lancashire Agricultural societies, and faced the thousands who thronged them year by year. Later in the exhibitions of local associations and in those of a more general character held at South Kensington, the "Working Dairy" has been a leading attraction. The British Dairy Farmers' Association also in its annual gatherings in London, has naturally kept the "educational" in view, and it may be safely asserted that this form of teaching has done much to make way for something stronger. The Irish schools taught us the value of public competitions and these have been very successful in showing the advantages which the trained makers of butter enjoy, when competing with those who have received no training. The few who had courage to enter the lists at first were not long allowed to monopolize the honors; every year the number of competitors has increased and the public interest has kept pace with that increase.

Pleasing and beneficial as is this phase of the movement, it no longer satisfies, for it has plainly pointed to the necessity for that instruction which shall give to the mass the knowledge and skill of the present few, and it has done more than anything else to create a desire for such instruction in the minds of those who need it. It has taken its right place in the line of progress, has done a very important part of its work and now waits the opportunity of testing the results of direct education. This latter is being furnished in our southwestern counties by the "Migratory" Dairy of the Bath and West of England Society, which, co-operating with the North Wilts Dairy Association, opened a school at Swindon, on October 16. A local committee had been formed; a suitable building secured; all necessary apparatus provided, and everything was ready for a commencement on the day named. Of course there was "a chiel"

among them taking notes, two or three indeed, but the promoters, though fully aware of it, were not disturbed thereby, nor inclined to secrecy.

In a spacious yard on the banks of a canal the inquisitive "chiel," interested visitor or knowledge-seeking pupil found a building which had been once a milk-condensing factory, by no means imposing, but very convenient for the purpose. Passing a vertical combined engine and boiler, standing in the open, he entered. A few persons were already busy in the preparations, some being evidently members of the local committee turning their hands to any work. A glance around showed a well-lighted room having a stone floor, and fitted with raised seats against three sides of it, a goodly array of "end-over-end" churns and "Albany" butter-workers in the space between them, and a "Laval" separator just within the door, doing excellent work. An adjoining room had been set apart for cream preparation and another as a sitting room for the pupils.

Several persons present challenged attention; first Mr. Davis, Secretary of the North Wilts Dairy Association, greeting all comers pleasantly, then near the separator stood two young ladies discussing arrangements. One carried an air of quiet authority and looked as if her responsibilities had sobered her beyond the possibility of a smile. That was Miss Walsh, a pupil of Prof. Carroll's from Glasnevin, but as to her smiling, you had but to wait awhile to discover under that self-possession, befitting the senior teacher, the native humor of Erin. The other was evidently English—Miss Davey, from the famous old dairy county of Somerset, whose capabilities had been brought to light in the show yard competitions referred to, and in which she had won medals and reputation. We could safely congratulate the promoters on their choice of teachers.

Clad in a milking gown and moving about with an alacrity which would have baffled a newspaper artist's endeavor to get a sketch portrait, was Mr. George Gibbons, the dairy steward of the Bath and West of England Society, who signalized himself in the first New York International Dairy Fair by carrying off the champion prize for cheese. The ruling spirit, he kept everybody at work, but his rule was so kindly and his heart so evidently in his work that all his associates were infected with his enthusiasm, and gladly answered his summons and obeyed his directions.

A little later arrived N. H. Story Maskelyne, Esq., M. P. for North Wilts, and Mr. T. F. Plowman, B. and W. E. Society's Secretary, both of whom were greatly interested in the new departure and were largely instrumental in bringing it about. The former called to order, delivered a brief but pithy address, exhorting all who had come to learn to do their best. He was followed by Mr. Gibbons with a little racy talk about the need for cleanliness and thoroughness; the roll was called and the school declared open. The teachers then gave a demonstration, the pupils—twelve in number—looking on; in the afternoon they were set to work.

At the end of ten days another batch followed, a few being received for shorter periods, the whole finishing with a competition for prizes. This last took place in the Corn Exchange, and eighteen of the pupils, who had gone through a whole course, took part in it.

The thermometer was low, but hope was high, and the competitors performed their work in general very creditably. The churning was too slow for so cold a day, and therefore longer about than was desirable, but the butter was gathered in fine granular condition

and well worked in most cases. Mr. George Barham, of the Dairy Supply Co., London, who was judge, stated at the close that he had never before undertaken so difficult a task in judging; the competitors coming so close upon each other that the winners of certificates were but slightly behind those who carried away the prizes. He stated, moreover, that he did not think there could be found in all the shows in England so many samples of butter made in competition so absolutely free from buttermilk and moisture. Four prizes, of the value of \$10, \$7.50, \$5 and \$2.50, were then delivered to the winners by Sir Richard H. Paget, Bart., M. P., the Chairman of the Dairy Schools Committee, who accompanied the presentation by some excellent remarks upon the value of the honors gained, as well as others—facetious—upon the possibility of hymeneal honors following, quoting the old song—

"Where are you going, my pretty maid?"
"I'm going a-milking, sir," she said.
"What is your fortune, my pretty maid?"
"My face is my fortune, sir," she said.
"Then I can't marry you, my pretty maid."

He thought that now it might be—

"I've got a certificate, sir," she said.

And the man would ask—

"Will you marry me," my pretty maid?
with the usual happy result.

Of the remaining competitors, there were "very highly commended," five were "highly commended," while two others were commended—in all, fourteen received certificates. With further complimentary allusions to those who had conducted the school and votes of thanks to the Chairman and "Local Committee," the proceedings were brought to a close.

The school will be reopened this week at Shepton Mallett, in Somersetshire, and after a three weeks' stay will proceed to another dairy center. The success at Swindon has made it a comparatively easy matter to succeed in other places.

The traveling school, however, is but preparing the way and leading up to the permanent institute, which alone can fully deal with the demand for dairy education. Even while the former was just striking its tents for the first time of moving, one of the leading promoters said to the writer: "This is good, but what is really required is a longer and more thorough course, and that under better conditions, and these can only be obtained in a fixed school." He was right, but that kind of institution has not yet succeeded in England, simply because we were not ready for it. Six months of work by the "Migratory" school in the west of England, will show that it is much more useful than the "showyard dairy," but still unable to properly meet the need of the time, and the people themselves will demand the permanent school, which will then be filled with pupils and become commercially prosperous.—John Bull, Dairyman.

The Family Cow.

Hundreds in our villages and cities are asking for good family cows, and find it very difficult to secure what they want, says *Farm, Field and Stockman*. There are plenty of cows in the market which their owners are anxious to sell, but they are not family cows, and many of them would be of little use in a village. A family cow must be gentle and docile in disposition—one that the boy of 6 or 8 years can drive to and from the pasture. One who has lived in town can appreciate the value of a gentle cow. A cow that is nervous, easily frightened, or disposed to run after women or children in the street, is in no way desirable for a family cow in village or city.

The family cow must be a good milker; must give an even flow of milk

REASONS

Why Ayer's Sarsaparilla is preferable to any other for the cure of Blood Diseases.

Because no poisonous or deleterious ingredients enter into the composition of Ayer's Sarsaparilla.

—Ayer's Sarsaparilla contains only the purest and most effective remedial properties.

—Ayer's Sarsaparilla is prepared with extreme care, skill, and cleanliness.

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PREPARED BY

Dr. J. C. Ayer & Co., Lowell, Mass.
Price \$1; six bottles, \$5. Worth \$5 a bottle.

for at least ten months out of the year. Besides this the milk must be of good quality—quantity alone will not answer in the family cow. Every family wants cream, and unless the cow can produce this as well as milk, her value for the family is greatly reduced. Why should not the selling value of milk be graded according to its cream value? When this is done the blue milker will find no place in the ranks of family cows.

Many consider the Jersey the best family cow, but there are those who are leaning toward the Guernsey. A writer in *Hoard's Dairyman* says: "After more than twenty-five years experience with grades of Durham, Devon, Jersey and Guernsey families, we have settled on the Guernsey as the family cow."

"In our experience the quality of the milk from the Durham and the Devon was not up to Guernsey standard. The Jersey is too nervous. If you could keep the streets clear and have only the accustomed ones handle them, they are all right. But with a baby cab or a few children at play, your Jersey too often becomes a dissolving view to be a comfortable family cow." This has not been our experience with Jerseys, and for more than seven years we have been constantly among them, having had full-bloods and grades. With them as with other cows, we believe a great deal of the nervousness and "dissolving view" nature is due to the way they are treated from calfhood up. As to gentleness, we never had more gentle cows, heifers or calves than those through whose veins coursed Jersey blood. The Guernsey is larger and will therefore make more "cow beef" when her usefulness as a family cow is gone, but as to being more gentle than the Jersey, and therefore, in this respect a better family cow, we are not convinced.

Either of these or the Alderney with their grades will make good family cows. Farmers who live near cities or large villages could make a profitable addition to their income should they give attention to rearing grade Jersey or Guernsey cows for sale to families. Rear them from calfhood up to cowhood with this in view. A cross on an Ayrshire cow will give a good foundation for a grade Jersey or Guernsey. Then pet your calf, give it good care, and if you do not find it too valuable a cow to spare from your own dairy, you can without doubt, find ready sale for it to some one in town or city as a family cow.

Correspondence.

Peanut Culture.

EDITOR KANSAS FARMER:—I promised to write an article on peanut raising for the benefit of your readers. I will give them my views based on my experience, and let them draw their own conclusions. We here in Gray county, Kansas, think we have just the soil and climate for peanuts. Last spring I bought some of the white or running peanuts, and planted about the first of April or as soon as the ground was warm enough; as peanuts will not sprout until the ground is warm. I hulled them and dropped in rows three feet apart and about eighteen inches apart in the row, covering the seed about three to four inches deep. It takes about two bushels to the acre. After planting I waited until the seed was sprouted, then harrowed and smoothed the ground with a clod-crusher; that killed all weeds, and the first thing up was the peanuts. As soon as they were large enough I took a common two-horse corn cultivator and plowed as I would corn. After the second plowing I put in men with hoes and gave it a good hoeing in and about the hills, the men hoeing about one acre each in a day. Nothing more was done until they had run about one foot, then I run through them with a single shovel plow; this threw the dirt out to the end of the runners; then, with men and hoes and rakes we leveled these ridges which were about two feet across with a furrow in the middle of row one foot; this left the land a good deal like sweet potato ridges, only much wider and not so high. This ended the culture, except to go through and pull out a very few weeds that were left by the men in hoeing the last time. A good many people think that they have to cover up the blossoms. This is a mistake and does no good. All you need is to have the ground flat under the hill and mellow, so the runners that leave the vines can penetrate the ground, as a brace root on a cornstalk; if these find easy access into the soil below the vine, there will be no trouble, but the vine will set all the nuts it can mature. But if the ground is hard the points or shoots cannot enter and soon become dried up in the sun and don't make anything. Again, if the ground is weedy the vines run up on the weeds and hence cannot reach the ground with the points, as they will not run down more than from three to five inches before they dry up or burn off by hot suns. Clean and mellow ground is essential to the successful raising of this crop.

The best soil for peanuts is rich sandy land, but any good soil that does not bake or crust after rains will do. The above described culture is considered very good, better than the average, and produced a yield of eighty bushels per acre. Hold on, now; don't commence to figure a fortune right away, but wait and hear the rest, because farmers do not get rich in a single day, but slowly and surely. When digging time came, and that is not until after the vines are killed by frost, and even then don't hurry until cold weather comes; for in Kansas the great trouble is so many do not mature and are light and chaffy, which hurts the sale of all. The old-fashioned way to dig them is to take a four-tined fork and lift up vines, turning them over and let dry in the sun. This is all bosh. Take a team and a common plow, and plow out by running the plow just deep enough so as to get under the nuts, and the vines will turn nearly upside down with the nuts all out in good view. When you have enough plowed or as many as you can pick off the vine in the same day, go along the furrow and lift up the vines one at a time by the top or center stem, shake off the dirt and drop back on the top of furrow with peanuts down, putting about ten to twelve vines in a bunch, one on the other, like cocking hay; then get your baskets and sacks and go to work taking off the top bunch, setting it up against the pile with the peanuts out towards you; then go at it as you would milk a cow, with both hands, and if you will work hard and quick you can get off about five bushels in a day. I had one man pull six, but a good many only get four. So you see the husking process is very slow and costs, if you hire it done, about 25 cents per bushel. As they are picked they will have to be spread out in some dry place to cure out, or they will

mold, and you must not let them freeze while moist or they will be ruined; so in cold weather don't plow out more than you can take care of, as they will not hurt in the ground even if it should freeze the ground one inch deep. The crop in this part of the county made about thirty bushels per acre; some few made forty, and about one third of these on an average are light and faulty and will all have to be hand-picked over before they are fit for the market.

Now how about this market, and how much can you get for all this trouble? This is the worst part. I do not know of any market in the United States for them. The only offer I have had is from Barteldes & Co., at Lawrence; they offer 4 cents per pound for good hand-picked peanuts laid down in Lawrence. There is twenty-two pounds in a bushel and they have got to be good ones to weigh that; this would give you 88 cents per bushel; then take out the freight and 25 cents for picking and you will have the rest for all your work. Now, friends and farmers, you can figure and make up your mind how many acres you will plant; I give my experience, you can profit thereby, and you, friend editor, will know that there is no bonanza in peanut raising; still it is better than wheat the way prices have been for some years prior to this season. If any of your readers should plant a patch of peanuts next year, don't let them do as one of my neighbors who planted some for the first time. When they commenced to blossom he began to look for the nuts, but none appeared on the vine; so off he goes to a neighbor and says that he would not have a peanut on his vines, as every blossom blasted. "Why, that is strange," says his neighbor; "have you dug to see?" "Dug!" he says; "cant you see them on the vines if there are any?" He supposed they grew like cucumbers or something of that sort. Let us hear from some one else and maybe we can learn something about a sure crop in Kansas.

J. W. ENGLISH.

Cimarron, Gray Co., Kas.

Dehorning Oattle.

EDITOR KANSAS FARMER:—It is now about a year since dehorning began to be practiced to any great extent in this county. Many persons claimed that the practice would soon be abandoned, that it was a temporary "craze." I also felt decidedly averse to it, until I heard Mr. Honnell, our present State Representative, speak on that subject at our Institute, and then saw him dehorn a vicious cow, which as soon as the operation was performed took and eat an ear of corn. After a little more investigation I had my whole herd dehorned. A few days ago I noticed an article in the *Breeder's Gazette*, written by Mr. J. G. Snyder, a Pennsylvania veterinarian, in which he strongly opposes the practice, claiming that is cruel and injurious to the animal and weakening to the offspring. He gives physiological reasons on which he bases his theory. His objections are evidently based on theory and not on experience, as he says that, when one asks him what he would charge a head for dehorning, he simply answers \$100. He also claims that the law ought to stop the practice. The opinions of these learned veterinarians on subjects which they have made their special study are not to be despised. Yet it will be safer to give more heed to the practical experience of persons that have tried dehorning on their herds than to mere learned theories.

For the benefit of those who have not seen any of the effects of dehorning I will give my experience. The operation was performed on my herd early in March last. There were sixty-six head and all healed in a few weeks, except one, in which maggots got a start. I cleaned it out twice and then it healed up, too. I did not notice any of them losing flesh or decreasing in milk, except the first day, with the exception of the one that had the maggots in. It certainly is painful to the animal while the sawing is being done; therefore the fastening should be good, so that it may be done quickly. During the spring and summer thirty-two cows had calves, of which two were lost on account of their coming in unexpectedly early, in stormy weather; thus raising thirty strong and healthy calves. Three more cows came in lately whose time of gestation has been completed almost entirely since the dehorning process. I can see nothing wrong with these calves. My cattle are smooth and

in good order; none of those ugly scratches or horn marks visible; they go together, little and big, like sheep. When a larger one tries to push one of the smaller ones, the latter does not run, but merely steps aside. Since dehorning I built a new shed, 24x64 feet, with hay loft over it, so as to get the full benefit of dehorning. It is a real pleasure to see them all go in there without fear and enjoy the shelter. I have thus far not noticed any of the evil effects mentioned by Mr. Snyder, except that it is painful. I think that the horning and chasing into wind and weather causes more pain in the aggregate than dehorning. If Mr. S. had a tooth that gave him pain off and on for years, with no probability of an abatement of the trouble, would he consider it cruel to have it pulled? And yet the tooth is probably of more real use to him than the horn to the cow. The Creator gave the horn for defense, for which purpose it is not needed in the present domesticated condition of our cattle. There is another effect I must not fail to mention. This is not an effect on the cattle, but on the owner. Many of our farmers, after seeing their herds dehorned, like their condition so much better that they have already purchased hornless males. Some are trying the black, others the red hornless. If these breeds prove equal to the Short-horn as milk and beef producers, there soon will be no more dehorning, for our people have no particular delight in the practice. It is the most valuable cow without the horn that they are after.

It is best to dehorn in the fall or early in the winter, then no flies will bother. Spring calves in the fall and fall calves as yearlings. They get a naturally nicer muley head when thus young dehorned. It is no great art. I purchased six calves at a sale after I had my herd dehorned, and before I was aware of it the boys had made muleys of them. It was done as well or better than those I hired done. They must be cut close just where the horn and hair join. I think in big herds it does the most good, for persons having small herds can tie them in stables in winter and thus keep them from hooking each other. I shall continue to watch for any evil effects meanwhile; unless future experience teaches me different I shall continue to dehorn our calves during the first year, until I succeed in raising hornless cattle as good as our present stock.

Brown Co., Dec. 4.

H. F. M.

Notes From Southern Missouri—Fruit-Growing and Its Profits.

Special Correspondence Kansas Farmer:

During the fruit-shipping season of '88 there was no section of country east of the Rocky Mountains that attracted as much attention as did the fruit product of this Southern Missouri country, especially that along the Kansas City, Fort Scott and Memphis railroad.

Being desirous of knowing more of it and learning something of the profits I visited the farm, here at Alden, Howell county, of the Olden Fruit Company. This company, consisting of J. K. Cravens, Kansas City; L. A. Goodman, Westport; J. C. Evans, Harlem; W. G. Gano, Alden; and Frank Holsinger and G. F. Espenlaub, of Rosedale, Kansas, was organized in 1883 and incorporated in 1885, with a capital stock of \$40,000. The farm contains about 3,000 acres, of which 800 are in cultivation. There are now over 100,000 trees, 60,000 peach and 40,000 apple, and nearly thirty acres of small fruits. The peach crop of '88 was 8,000 one-third bushel boxes, which brought on an average 85 cents per box, aggregating \$6,800. Of small fruits there was sold 658 cases of raspberries, 410 of blackberries and forty-one of strawberries. For raspberries and blackberries they received \$3 per case, making an aggregate of over \$10,000. Taking into consideration the value of the corn and potatoes grown in addition to that of the fruit, and that this was really the first bearing year of the peach trees, it certainly makes a good showing both as to profits and success of fruit-growing in Southern Missouri. The company will put out fifteen acres more of small fruits in the spring and will add another hundred acres of peach and apple trees. Judging from the finely-flavored and handsomely-colored fruit grown here one cannot but conclude that the soil and climate are more fittingly adapted to growing and cultivation of all the varieties grown in a temperate climate.

The ten acres of pear trees promise well, and most of the thirty varieties of grapes do well. The climate has no superior for peach culture. There are now on the farm peach trees that were put out eighteen years ago and are to day sound and as prolific bearers as ten years ago. Another thing that strikes the visitor is the price of lands, which range from \$2.50 to \$4.00 per acre. Of course first class valley land commands a higher price, but the upland seems to be the better adapted to fruit culture. As a confirmation of that fact I visited Mr. E. F. Hynes whose fruit farm lies on the high land near the town of West Plains, eight miles south of this. Mr. Hynes came to this country twenty years ago and he began experimenting with fruit twelve years ago. Has originated several varieties of apples and peaches; of apples, the Loy and the Levi, and of peaches, the Surprise and the Nectar. Both these peaches are among the earliest varieties known and are being very successfully propagated in New York and California. He has about 150 varieties, and when he hears of any new thing he procures it and experiments with it. He may properly be called the "daddy" of fruit men in Southern Missouri. He also exhibited thirty-four varieties in glass at the late Kansas City Exposition and took the lions' share of blue ribbons. In conclusion, for this time I will say that I am more than ever convinced that this section of country possesses greater and better advantages for fruit growing than any other that I have visited, and for these reasons: The price of land is very low, especially so when one makes a comparison with the prices of lands in, say California, ranging from \$300 to \$1,000 per acre. Take the same amount of money that would be required to pay for high-priced land and the amount necessary to be paid out before any returns would come from the sale of the crop, and right here in Southern Missouri in ten years time the same money will bring a higher rate of interest than in either Florida or California. It only needs to be carefully investigated and the most skeptical I think will agree with me.

"PROVISO,"

Olden, Howell Co., Mo., Dec. 6, 1889.

Topeka Weather Report.

For week ending Saturday, December 8, 1888: Temperature.—Highest at 2 p. m., 62 deg. on Tuesday, the 4th; lowest at same hour, 41 deg. on Sunday, the 2d.

Rainfall.—No rain or snow this week.

Hull's Hotel and Restaurant.

The only restaurant with special parlor for ladies; the finest in the city. 723 Kansas avenue.

For Sale.

A mixed herd of Ayrshire cattle, nine in all—yearlings, cows, etc. Herd at Kingman, Kas. For information address Dr. E. F. Butterfield, Syracuse, N. Y.

Farm Loans.

Loans on farms in eastern Kansas, at moderate rate of interest, and no commission. Where title is perfect and security satisfactory no person has ever had to wait a day for money. Special low rates on large loans. Purchase money mortgages bought. T. E. BOWMAN & CO., Jones Building, 116 West Sixth street, Topeka, Kas.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y.

Cold, bare and brown lie hillside, dale and plain. They rest from labor now; yet flower, fruit and grain Shall cover them again. Complain not that they sleep— Sow worthy seed; a worthy harvest shalt thou reap.

Care in the selection of seed is of prime importance in securing good results. Get worthy seed; seed that is pure and fresh; such seed as James J. H. Gregory of Marblehead, Mass., raises on his own farms, and has sold to the public for thirty years, and worthy harvests shalt thou reap. Send for his 1889 catalogue, free to all.

WEATHER PREDICTIONS.

By Prof. C. O. Blake, Topeka.

[Correspondence on account of this Weather Department should be directed to C. O. Blake, Topeka, Kas. See advertisement of Blake's Weather Tables on another page.]

WEATHER AND THE PLANETS—BY A PROMINENT SCIENTIST.

[From the London (Eng.) Times.]

While I am writing on this subject, I would ask you to permit me to make a few other remarks. It will be readily admitted that if our solar system consisted of the sun and earth alone every year would be alike, as the earth would return to the same position with respect to the sun at the same time of the year. If now the moon be introduced, it is evident that any changes due to its varying positions will recur when she returns to the same position with respect to the earth, in all her phases at the same time of the year. This happens every sixty-two years with a difference of only four days. Hence, if the moon influences the weather, the latter ought to repeat itself practically every sixty-two years. Now this is the basis on which I construct my lunar curve—namely, that the movements of the barometer and the thermometer for this year are not unlike those of 1826.

Now it will be argued that, if the moon influences the weather, the planets must also to some extent do so. This is true, and, from a careful examination, I find to an extent much greater than I suspected. It will be surprising to learn that Mercury, the planet nearest to the sun and the smallest, is most powerful in its disturbing effect on our atmosphere. An attempt to trace the perturbations of the various planets has proven, however, unsatisfactory, because what is required in regard to our weather is to know, not what is the effect of each of the heavenly bodies, but what is the numerical value of their combined effect.

The problem which I set about investigating then was this. Given a body, the earth surrounded by the sun, moon and seven planets, all exerting a disturbing influence upon our atmosphere, and all changing their positions daily more or less: required the daily resultant for a year. It was a problem of vast dimensions, but I saw clearly that it was quite worth the trouble; for, if it could be solved, then weather forecasting became immediately a subdivision of astronomy, and we should be able in the future to write down the weather of any country—the atmospheric tides, so to speak—with as much accuracy as we do now the tides of the ocean in the vicinity of that country. I am now in a position to say that, after some weeks of hard work, I have solved the problem. Thrown into the form of a curve the disturbance agrees practically with another curve representing the departure of the temperature from the average for the same year. As this disturbance curve is a world curve, it follows that it may be applied to the mean temperature curve of any place, and it will give another curve which represents the various changes of temperature at that place for the year—in fact, in other words, a forecast of the weather.

A most surprising discovery has resulted from comparing these two curves and noting the discrepancies, for there are some places where they do not agree. Theoretically one would argue in this way: If the sun, moon, and seven planets give a disturbance curve, and it agrees at all with another curve representing the departure of temperature from the mean, it ought to agree altogether, because all the disturbing bodies have been taken into account. But it does not; it points to the action of another planet with a synodical period of fifty-two days. The question naturally arises, is this Vulcan? The existence of such has long been suspected; indeed, some have declared that they have seen it. It will indeed be an astronomical marvel if the discovery of Vulcan, or a planet which has been hitherto unseen, should be due to the weather of our globe, or rather to the much abused weather of England. Whatever this body is, there can be no doubt of its existence. Possibly it may be found to be not one body, but a ring of asteroids moving around the sun within the orbit of Mercury at an average distance of 1 from the sun. Mercury's distance being taken as 4. Those interested in the question will find some remarks in *Nature* of November 28, 1874, in which I endeavor to show, by a modification of Bode's law, that a ring of asteroids is revolving around the sun at the above-named distance. This, coupled with the facts that the body or bodies have a synodical period of fifty-two days and were probably in inferior conjunction with the sun at the dates of February 12, April 4, May 23, July 17 and September 7, ought to enable observing astronomers to fix the position. It is worthy of note that a planet at a distance of a little more than 1 from the sun would have a synodical period of fifty-two days. As there are some indications that point to a minor disturbance every twenty-six days, possibly the perturbation may be due to a ring of asteroids with a main synodical period of thirty-five days for some and fifty-two for all. Or it may be—it is worthy of the consideration of those who have studied the details of sun-spots—that there is a twenty-six day period in these, especially when it is borne in mind that the sun's period of revolution is nearly twenty-six days.

But whatever be the nature of the disturbance, it must be admitted that, if the changes in temperature of our globe are due to the action of the heavenly bodies, the temperature curve must be right as a record of perturbation and we must set ourselves to discover what it is that exists which has not been taken into account which has a synodical period of fifty-two days. I am, sir, your obedient servant,
B. G. JENKINS, F. R. A. S.

When we first published our weather predictions twelve years ago, stating that they were based upon astronomical mathematics and terrestrial topography, we sent copies to all the observatories in the world; but some of the astronomers did not think it possible that the moon and planets could have any influence upon our weather. Since then we have frequently sent them copies of our publications, and some have been deeply interested in our writings and have sent us many valuable astronomical works in return. But the above is the first instance which has come to our notice where members of the Royal Astronomical Society have openly adopted the very system

of astronomical calculations in regard to the weather which we have so long advocated. While editing *The Future* we published several long chapters explaining the fundamental principles upon which our mathematical calculations and predictions were based; but we were forced to discontinue those articles because many of the scientific experts who were able to comprehend our *modus operandi* would not read what we wrote, while many who would read them did not possess the scientific training to fully understand such intricate problems.

There have been many in this and other countries who have made weather predictions upon what they called planetary influences; but we have never seen an article which showed any actual knowledge of astronomical mathematics till the above appeared in the *London Times*. While Professor Jenkins has now struck the right track, it is evident that he has not progressed far, as his statements show that he is about where we were twenty years ago. It is, however, very gratifying to know that able scientists have taken hold of the subject in earnest, and that the science will therefore sooner be brought to as great a degree of perfection as that of calculating eclipses or the perturbation of planets. But we have an idea that even Professor Jenkins will find many stumbling blocks, and will find himself under the painful necessity of discarding many of the ideas which he has learned in the books, to make room for broader and more comprehensive truths, before he will reach the point where he can actually predict what the temperature and rainfall will be in various States and countries for each month. We shall be pleased to explain the various steps by which we have progressed in weather science as fast as we can find readers who are able and willing to comprehend.

If an intra-mercurial planet actually exists, we think its synodical period is sixty-nine days instead of fifty-two. There are occasionally some minor errors in our weather forecasts which we cannot fully account for, and it may be that they are caused by an undiscovered planet inside the orbit of Mercury, though from a long and careful observation of such minor errors we cannot reduce them to a fifty-two day period; a period of sixty-nine days seems to be more satisfactory. We do not depend upon the single influence of any one planet, but obtain "the numerical value of their combined effect," as Professor Jenkins suggests. By so doing, a period of fifty-two days for the synodical period of Vulcan, if it exists, does not give as good results as a period of sixty-nine days.

December 4, 1888.

Enclosed please find 75 cents for a copy of your "Weather Tables" for 1889. I have been watching your predictions in the *KANSAS FARMER* for several months past, and I have come to the conclusion that you are a remarkably good hand at guessing or else you must certainly know something about the weather in the future.

The above is from a prominent LL. D. in one of the great universities.

ROCHESTER, N. Y., December 1, 1888.

I received yesterday your "Tables of Weather Predictions" for 1889. You certainly are in possession of facts weatherwise in advance of the rest of humanity or you are a very audacious individual. I shall endeavor to give proper notice in my paper. I should like to know if you can point to a season within the last twenty-five years that will compare somewhat with the summer of 1889 in western New York. A reply will be considered a favor.

We answered the above briefly by letter; but now answer more fully as it is of general interest. Many years ago we tried to predict the weather by calculating the influence of the moon and each planet separately. It gave fair results at times, but would frequently fail altogether. At that time we supposed the weather repeated itself in cycles of greater or less duration. We discovered some such cycles; but as we could not wait an hundred years or more to verify them, we took the oldest reliable weather records and traced back for more than one hundred years, and found that these cycles are constantly breaking up while new ones form. We found that if there were no planets but Jupiter that the weather would repeat itself every year very closely, while in a cycle of about twelve years it would repeat exactly. If there were no planets but Saturn then the cycle would last for twenty-nine and one-half years. But when we calculated the daily combined influence of all the planets and the moon upon each other and upon the earth, together with the daily differential influence of all the planets upon the sun and his consequent reaction upon the earth, as recorded by the sun-spots, auroras and deflections of the magnetic needle, we found that any reliable cycle in which the weather would repeat itself was an impossibility and that the weather for each year, month, week and day must be calculated by itself without reference to any supposed cycle, or the work would be discordant and the final result false. We can find many instances in which the weather of two years is alike for a few months at a time in one section of country, while in another section at the

same time the discordance is very great. But we have never been able to find an instance where the weather in all its chief details for any considerable part of the year and over a large part of the earth's surface has been like that of any other year. Still we consider cycles of very great value as aids in making actual weather calculations; we use a great many of them in our work, but only while working out the more general features of our predictions. When it comes to filling in the details, the cycles are a nuisance instead of an aid. Any one can take reliable weather records and find years where part of the season in western New York was similar to what part of next season will be; but if he extends his investigations to other States he will find great variations as to those two years. So, too, of Iowa; he can find a different year which will fit the weather of Iowa for part of next year, but it will not fit New York or Louisiana. To find a year in the past in which the weather was the same in each State as it will be in 1889 is like trying to ring the changes in a vast number of combinations.

BOSTON, MASS., December 1, 1888.

I am much interested in your astonishing statements on page 16 of your "Weather Predictions," and I am tempted to ask if you cannot in a few words give me some idea of your great astronomical discovery. This is a period of most wonderful scientific progress; but the greatest progress as usual is made by men who have not yet made a name—with such men I am in sympathy. Please send me another copy of your "Tables of Weather Predictions." I send postal order for 75 cents.

B.

No, it cannot possibly be stated in a few words, as it includes the entire science of cosmogony even more fully than that in Humboldt's "Cosmos." In the first issue of "The Future" we published several tables of astronomical mathematics and then published five chapters entitled "Cosmogony." We can furnish all of the above at 35 cents. They give all the fundamental principles upon which our science is based. We intend to resume "Cosmogony" during the coming year.

Gossip About Stock.

At the Kansas City stock yards the receipts for 1888 to date are 1,001,931 cattle, 1,872,812 hogs and 332,319 sheep, showing a gain of 366,015 cattle, 395,758 hogs less and a gain of 133,581 sheep, compared with 1887.

Breeders who want the *KANSAS FARMER*, *Breeder's Gazette* and Blake's Weather Tables for 1889 can secure them all by ordering at once for \$3.25. The total single price amounts to \$4.75. Save \$1.50 by ordering now, as this is a limited offer.

Frank Kelfer, of somewhere, will hear something interesting to him by writing to M. B. Keagy, breeder of Berkshire swine, Wellington, Kas. The letter, written some time ago, had no postoffice nor State, and from post-mark only "KA" could be made out.

Geo. T. Pitkins, whose card appears in the Directory of this paper, exhibited poultry at the Chicago show recently closed, and captured on White Plymouth Rocks, breeding pen 1st, cockerel 1st, pullet 2d; Plymouth Rocks, breeding pen 2d, pullets 1st, 2d and 3d, cock 3d, hen 3d, cockerel 3d; Rose-combed Brown Leghorns, breeding pen 1st; Rose-combed White Leghorns, cock 1st, hen 1st, cockerel 1st, pullet 1st.

C. E. Masters, of Irving Park, Ill., won prizes at the American Poultry Show, held in Chicago in connection with the Fat Stock Show, as follows: White Leghorns, 1st on breeding pen, 1st on cock and 3d on hen—a prize for every entry; White-faced Black Spanish, 1st on hen, 2d on hen, 1st on pullet and 1st on cockerel; white Angora rabbits, 1st prize, and sold a pair to Alfred G. White, Scranton, Kas., a noted fancier. Mr. Master's card will appear in this paper January 3, 1889.

Hon. J. M. McKee, breeder of Poland-China swine, Wellington, Kas., reports twenty-three sales within the past two weeks. In regard to advertising he says: The *KANSAS FARMER* gets me more patrons than all other papers combined. I consider it the very best advertising medium. An advertisement planted in the *KANSAS FARMER* is seed put into good ground which will speedily bring good returns to the fortunate planter. See advertisement elsewhere and place order.

Elsewhere will be found the advertisement of the City hotel, corner State and Sixteenth streets, Chicago, Ill. This hotel is located on the finest retail street of the city, has 100 rooms and splendid accommodations throughout. It is a select family hotel and within easy reach of the business center. Western Union telegraph office in gentlemen's waiting room. Cable cars pass from hotel to depots, stock yards, parks, and all parts of city. By stopping at the City hotel you can save money over the rates of European or other houses and have the accommodations of a first-class hotel with room and board at a moderate price. Reduced rates for a week or more. Special rates to stockmen and shippers, \$1.50 per day.

Each farmer and every stockman, in fact, all people who are directly or indirectly interested in having a neat, strong, durable, attractive, and yet inexpensive fence around their premises, or dividing enclosures already fenced, and for replacing fences now decayed, dilapidated or destroyed, should read the advertisement of the Wire Fence



Hello-FINZER—send that JOLLY TAR PLUG TOBACCO quick, my customers say it's the best plug tobacco for the money they ever tried—



Hello-CHICAGO. We will ship at once. Better Keep good supply of JOLLY TAR PLUG CHEWING TOBACCO, It's selling like hot cakes and will sell still faster when everybody knows about it. Jho. Finzer & Bro's Louisville

Improvement company to be found in this and ensuing issues of the *KANSAS FARMER*. After examining a section of wire fence faced with "Steel Stay Guards," made by the Wire Fence Improvement company, it is found that every point of excellence alluded to more than corroborates itself; besides affording humane protection to stock from possible injuries that may arise or be inflicted on coming in contact with wire fences barbarously constructed.

M. B. Keagy, breeder of Large English Berkshires, Wellington, Kas., reports great demand for hogs, and that his sales have been numerous at remunerative prices. His recent sales have been as follows: One pair pigs to H. L. Highly, Illinois; one boar to David Tappan, Nebraska; boar to Wm. Nevins, Kansas; boar to Moore & Shannon, Kansas; boar to A. G. Parr, Illinois; boar to H. Humphrey, Kansas; boar to S. S. Singer, Kansas; boar to A. Metcalf, Wisconsin; boar to E. A. Sylvester, Missouri; sow in pig to F. F. Bliss, Kansas, and boar to M. M. Campbell, Missouri. Besides the foregoing, he has sold a lot of fine Plymouth Rock fowls to different persons. Mr. Keagy attributes his marked success to the *KANSAS FARMER*, and further certifies thereto by a renewal of his advertisement for the fourth consecutive year. Note change therein and write him should you desire something choice in the way of Berkshire swine. His motto is to please.

Catarrh Cured.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 88 Warren St., New York city, will receive the recipe free of charge.

Remember the *FARMER* is now \$1 a year.

The Home Circle.

To Correspondents.

The matter for the Home Circle is selected Wednesday of the week before the paper is printed. Manuscript received after that, almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

Tired.

I am so tired to-day;
I long to lay
My head, for rest, upon the pillow green
Of some still churchyard grave, and shut
me in
From all the cares, the worries and the strife
Of all this anxious, restless mother life,
And sleep, please God, for aye.

Ah! little children with your dancing feet
And glances sweet!
I have so weary of my burdens grown,
I fain would loose your fingers from my own,
And leave to other hands the dear delight
Of guiding baby footsteps up the height,
And thus my task complete.

But, weary mothers, would I have it so?
Would I? Ah! no.
I could not sleep within my grassy bed,
For hearing pattering footsteps overhead.
This mother heart, though turned to dust,
Would throbb
Responsive to the baby's lonely sob,
However faint and low.

And so I could not rest me after all;
The grasses tall
And snowy daisies could not bring me peace;
The aching mother love would never cease.
Oh Christ! who gave this love with mother-
hood,
On mothers tired bestow this greater good,
Patience—what'er befall!

To the soul time doth perfection give,
And adds fresh luster to her beauty still,
And makes her in eternal youth to live,
Like her which nectar to the gods doth fill.
The more she lives, the more she feeds on
truth;
The more she feeds, her strength doth more
increase.
And what is strength, but an effect in youth,
Which if time nurse, how can it ever cease?
—Sir J. Davies.

Man loves knowledge, and the beams of truth
More welcome touch his understanding's eye
Than all the blandishments of sound his ear,
Than all of taste his tongue. —Akenide.

"The Summer is Over and Winter is Here."

I was about to assume the role of authorship to "The Harvest is Past," when Phoebe Parmalee's (dear soul) well-written words, under that head, relieved me of that honor; so now for something else. Yes, summer has been numbered with our yesterdays, and autumn also. Now we have only remaining the prospect of leaden, snow-laden clouds for our canopy, and the dull dead earth beneath our feet. And yet, to the bright happy heart there is much of enjoyment and much to anticipate in the wintry months before us. To the wife of the farmer, these weeks, before the plowboy's whistle is again heard, or the hum of the reaper floats on the sultry air, mean much of rest and mental food, for if she is prudent of her time, as well as prudent of her means, she has finished her preserving and pickling, her bulk of sewing also, and now, with breakfast before daylight and supper after lamplight, there is, after the weekly washing and ironing with its attendant mending, unless she has her daily churning, as is the case with your humble scribe, there is an abundance of time for the planning of Christmas surprises by day, and reading, recitations, music, etc., at eveningtide. And I am inclined to accept the restful season of winter good cheer as necessary to our anatomy as the rest at this time of year is to the fertility of mother earth, that needs the dormant months of inaction. Then who may say winter is all lost, since it is God's great plan that we should rest these bodies to feed our minds for his service and for a higher sphere in life than the dull round of everyday duties?

Phoebe Parmalee, I wish you were one of my neighbors, for then the shake of hands and communion of kindred spirits were something to be enjoyed, not written about. Please tell me your plan for establishing a reading circle in a rural district. The Oxford League in town is too far away for weekly attendance. Ladies of the FARMER, now these dull days have come, let us be more prompt with our pens and keep the Home Circle lively. Yours occasionally,
MYSTIC.

Parents, Respect Your Children.

Does that sound absurd? I think not, when we consider that our boys and girls will soon be men and women. Children are very observing and they remember every

little slight or disregard of their natural rights. I knew a father to burn a toy because a child disputed some trivial thing about it; that child felt hardened; though it never mentioned it afterward, there was always mistrust. How much better to put away and deprive it of a cherished toy for a time till they would remember better. A little girl said one day: "Mamma, you like papa lots better than you do me, for you answer quicker when he speaks than you do for me." It set me to thinking. I believe in respecting a child's rights as much as any one's.
MILLIE.

"Summer Rest" for Women.

Nestling among the trees on the top of one of the highest hills in the upper part of Bergen county, New Jersey, is a pretty two-story cottage, which is known for miles and miles around as the "Summer Rest Cottage." Here it is where tired, brain-weary gentlewomen may rest and refresh themselves amid the cool breezes of the Garden State during the summer vacation. The cottage is set back from the road amid tall trees that shade and make it cool, and the first peep at the pretty building is both assuring and comforting. A nicely-kept carriage drive leads to the porch. All around are woods, lawns, and terraces. In the woods are cool, shady nooks, and on the lawns are croquet and tennis sets. Hammocks swing lazily to and fro beneath the trees, and from any part of the wide veranda which encircles the cottage a most beautiful view is obtained. So high is the hill on which the cottage rests that at night the lights of the Brooklyn bridge and the twinkling of Liberty's torch, nearly twenty-five miles away, can be seen plainly, while the reflection of New York's thousands of lights rests in the sky like a huge crown on the head of a great city.

There are twenty acres of ground around the cottage, part of which is cultivated, and bears all sorts of vegetables and berries, while the fruit trees keep the supply of all sorts of fruit abundant. The cows furnish all the milk and butter, and horses are kept for the accommodation of those occupying rooms at the cottage.

As to the house itself, it is a model of homelike comfort. Delicately patterned carpets cover the floors, and portieres and tapestries flutter in the breeze from the doorways and windows. A piano occupies a prominent place in a prettily furnished parlor. The sleeping rooms are large, light, airy and nicely furnished.

This is the second year of the cottage's existence, and it bids fair to be a most flattering success. It is intended to be a resting place where school teachers, art and music teachers and students, and, in fact, all gentlewomen who are self-supporting, can spend their vacations. The rates for board are extremely low, and are expected only to pay the running expenses of the place. At present there are accommodations for but twelve or thirteen ladies. The cottage is under the supervision of a number of ladies prominent in New York social circles.

At Boston a similar opportunity may be found at the Sanitarium at Lowell Island, founded by Mr. Kindge's generosity. Although primarily for children, the premises are so large that the managers are able to offer board at a low rate to working women desirous of obtaining sea air, rest and quiet, without necessitating annoyance from the children. The home is under the care of the Sisters of St. Margaret.

Brief Chapter on Relishes.

The relishes are of two classes. First, those which depend mainly on one or more piquant substances, such as pepper, mustard, ginger, horseradish, vinegar, cinnamon and the various spices. These are combined with some one or more—generally with several—of the following vegetables as a base: tomatoes, usually green; onions, cabbage, cucumbers, pears, peaches, currants, berries, grapes.

Secondly, those which depend mainly on sugar, combined with the juices of various fruits, or with the pulp, as in the case of marmalade.

Now the question arises, are these and similar relishes conducive to health?

A normal, vigorous appetite needs no such aid. It is sufficient of itself. The lower animals need nothing of the kind. The cow's green grass, the horse's dry hay, and

the dog's bone with a little meat on it, are doubtless eaten with a relish that our pampered stomachs know little of.

Unfortunately, all people have not high health. Some are in a feeble condition, with little or no appetite, and yet their recovery depends mainly on the food they take. In such cases some simple relish is not merely greatly desirable, it is necessary.

Many persons, in this driving age, come to their meals with little appetite. A sensitive appetite quickens and increases the gastric secretions. In such cases, therefore, some piquant relish is really helpful. Probably even the strongest is not injurious, if used with moderation; but relishes are greatly pernicious if used to encourage over-eating or to cause one to eat when the stomach is already exhausted from previous repletion.
—Youth's Companion.

Mince Pies.

Mince-meat for pies—

- 1 cupful of chopped meat.
- 1 1/4 cupfuls of raisins.
- 1 1/4 cupfuls of currants.
- 1 1/4 cupfuls of brown sugar.
- 3/4 cupful of molasses, or
- 1 cupful of granulated sugar.
- 3 cupfuls of chopped apples.
- 1 cupful of meat liquor.
- 2 teaspoonfuls of salt.
- 2 teaspoonfuls of cinnamon.
- 1/4 teaspoonful of mace.
- 1/4 teaspoonful of powdered cloves.
- 1 lemon, grated rind and juice.
- 1/2 piece of citron.
- 1/4 cupful of brandy.
- 1/4 cupful of wine.
- 3 teaspoonfuls of rose water.

This recipe will be found convenient for those who like accurate measurement. It will make nearly three quarts. Mix in the order given. Use enough of the meat liquor to make it quite moist. If you do not approve of wine and brandy substitute one cupful of cider, or one cupful of sweet pickle vinegar, or half a cupful of water with the juice of one lemon, and two or three tablespoonfuls of jelly or preserve.

Cook it in a porcelain kettle until the apple and raisins are soft. Add a little more rose-water when you fill the pies.

In following this rule much will depend upon the purity of the spices used. These proportions do not make a highly spiced mince, but it is easy to add more if desired. If it seems to lack something, add salt. This brings out the other flavors.

Pastry for one pie—

- 1 heaping cupful of pastry flour.
- 1 saltspoonful of baking powder.
- 1 saltspoonful of salt.
- 1/4 cupful of lard.
- 1/4 cupful of butter.

Mix salt and baking powder with the flour and rub in the lard. Mix quite stiff with cold water. Roll out, put the butter on the paste in pieces the size of beans, and sprinkle with flour. Fold over and roll to fit the plate.

Puff paste—

- 1 pound of the best butter.
- 1 pound of pastry flour.
- 1 scant teaspoonful of salt.
- 1 cupful of ice water.

By measure, use one quart of flour and one pint of butter. Scald the bowl and dip your hands in hot water, to keep the butter from sticking. Wash the butter in cold water, divide into four parts, pat until thin, wrap it in a napkin and place in a pan between two pans of ice. Mix the salt with the flour, rub in one part of the butter, add the ice-water slowly, mix with a knife, and cut till it can be taken up clean from the bowl. Toss out on a well-floured board, pat into a flat-cake, then roll out until half an inch thick. Roll one part of the butter thin and lay it on the middle of the paste. Fold the sides towards the middle, then the ends over, and double again. Pat and roll out again. Repeat this process with the remaining pieces of butter. When the butter is all rolled in, the paste should be rolled and folded till no streaks of butter can be seen. After the last rolling, place it on the ice to harden, as it may then be cut and shaped more easily.—Good Housekeeping.

The first telegraph office was opened in Washington in 1845, and the receipts from April 1 to 4 inclusive were 1 cent. On April 5 the receipts rose to 12 1/2 cents, and on the 6th and 7th fell off to nothing. April 8 the office took in \$1.32, and on April 9 \$1.04.

Your wasted cheeks may have all the plumpness and bloom of health through your use of Ayer's Sarsaparilla. This time-honored remedy still leads the van. It improves digestion, purifies the blood, and invigorates the system. Give it a trial.

The Latest in Jewels.

In bracelets a heavy coil of rope in variegated enamel is the latest design.

Umbrella handles of recent design are of gold and silver, peculiarly blended.

Among recent hairpin devices is one representing a cornstalk in green gold.

Miniature paintings are now being adopted as ear-rings, in circles of colored pearls.

Watch cases are now ornamented with flowers in dead enamel to imitate hand painting.

Two rows of beads, one of small pearls and one of cut steel form a most desirable misses' necklace.

An ingenious idea is a little paper weight, a fac simile of an old-fashioned milestone, in solid white onyx.

For half mourning a hairpin topped with a large jet ball studded with small brilliants is quite appropriate.

Some of the most stylish fans the coming season will be ornamented with etched ivory and silver gilt sticks.

Specially attractive as a breastpin is a golden scythe, entwining a spray of enamelled pansies, with gold stems.

A brass hand, grasping between its thumb and forefinger a mother of pearl pen, as in the act of writing, is a unique design in paper-weights.

A scarf pin in the form of a dove, studded with diamonds and ruby eyes, and holding in its mouth a golden olive branch, may well be termed pretty.

Large buttons are becoming popular with the ladies, not so much for use as for ornament. One of pearl, with a horseshoe made of fine steel points, is quite handsome.

A jelly spoon of oxidized silver and silver gilt, with the ladle in the form of an oyster shell, and ornamented with floral decorations, is something new for the dessert table.

A queen chain composed of two dull gold buckets, suspended by a frail chain from a highly-polished golden wheel, revolving between two shafts, is at once new and striking.

A hollow log of wood on two rollers has a precocious lad in silver seated upon it, holding in his extended hands two glass wells, the hollow wood serving as a pen rest, the whole forming an admirable inkstand.

A clock modeled after a boiler and engine is an ingeniously constructed new timepiece composed of solid brass and nickel trimmings. The dial of the clock takes the place generally assigned the steam indicator, and each revolution of the governors counts the seconds. The whole is mounted on a marble base.

Pure ammonia is recommended as the best remedy for bee stings by Prof. A. J. Cook, H. D. Cutting and other experts.

The reading public has reason to be disgusted with any medicine which claims to cure everything, from a corn to consumption. Shallenberger's Antidote for Malaria is simply what its name imports. If you have Malaria in your system, a few doses will destroy it immediately. So far as now known it is the only antidote for this poison. Sold by Druggists.

Special Opportunity at the State Agricultural College.

The college will organize at the beginning of the winter term—January 7—classes in common branches of various grades of advancement suited to the wants of students at district schools who want the advantages of the college training. The requirements for admission will be the same as at the beginning of the year in September. Students over 18 years of age may be received upon special conditions, where for lack of opportunity they are deficient in one or more of the branches named. The examination will be held on Monday, January 7, but admission will be possible at any time upon showing sufficient advancement to enter classes already in progress.

The education offered at the college is of the best for all ordinary purposes of life. Farmer's sons and daughters have special consideration of their wants in the sciences directly related to agriculture; household economy and mechanic arts are also provided for. An able corps of teachers and excellent equipments make the teaching in every way superior. Tuition is free. For further information address

PRES. GEO. T. FAIRCHILD,
Manhattan, Kas.

The Young Folks.

In the Window Seat.

One evening in an autumn old
We in the cushioned window seat
Sat side by side in converse sweet.
As that old tale our young lips told,
We watched the shadows away and greet
Upon the walls. The burning logs
Lay crackling on the great brass dogs.
Far back within the window seat,
Half hidden by the curtain fold,
You sat and swung your dainty feet.
Our brown eyes tenderly did meet
As low we talked, the story told,
That evening in an autumn old.

Things did not chance as they were told
Within the cushioned window seat
That autumn time. Our story sweet
Is like some vague romance of old.
Here in the after years we meet,
When shadows oft from burning logs
Have lain athwart the great brass dogs,
And clung about the window seat,
Half hidden by the curtain's fold.
The paths we trod have led our feet
Apart till now; and years full fleet
Have drifted by. Since we are old
We smile at that old tale we told.

But, hilt! Within the window seat,
Half hidden by the curtain's fold,
Your daughter swings her dainty feet,
And, madam, hear my boy repeat,
With eager lips, a story told,
One evening in an autumn old.
—Charles Washington Coleman, Jr., in Lippincott's Magazine.

Were love but a mythical, fanciful theme,
But a flickering sunbeam of golden gleam,
But the mystical fount of a shadowy stream,
A vanishing vision, a beautiful dream,
How, then, could love crown us with bliss so
supreme? —Emily Thornton Charles.

A something light as air, a look,
A word unkind or wrongly taken,
Oh! love that tempests never shook,
A breath, a touch, like this has shaken.
—Moore.

Babies in Turkey.

When the little darling comes, it is not dressed in fine linen shirt, softest flannel barrow coat and dainty white slip. It has a little cotton shirt or long calico wrapper; but for the rest, it is swathed in pieces of cloth—swaddling clothes—like the infant Christ. If the family are well off, the outside wrap will be a Persian shawl, so that baby looks like a nice bundle, and is as stiff as a stick of wood. You can hold him any way, except head down, without hurting him. When his mama wants his little sister—perhaps only 6 years old—to carry him out-of-doors, so that she can weave, wash, or get the dinner, she does not have to say to Miriam, Is-go-hee, or Fatmah: "Now be sure you hold him tight. Don't let him fall, nor strain his back, nor stand on his tender little feet." All she has to do is to tie the little bundle on the little sister's back, and off she runs; while baby sleeps or watches the children, and gazes at the strange things in the strange world about him until he gets hungry and cries for his dinner, like any American baby.

But I have forgotten something, if he is an Armenian baby; namely, that he must be baptized when only a few days old. His godmother dresses him in the best they can afford, or, better, lays him on a satin pillow, covers him, face and all, with something handsomely embroidered, and takes him to the church. There the priest meets them and precedes them to the font. The service begins, baby's things are all taken off, the priest takes him in his hands, and, holding the little nose between thumb and fingers, immerses him three times, giving him a chance to breathe between the dips. The service goes on. He is dressed, crossed on the forehead with the holy oil, laid on his pillow, covered up, and finally carried home again, a little Christian baby.

If he is a city baby his mother takes him to the (Turkish) bath every three or four weeks, or even oftener, where he is choked with the steam, blinded with soap, scalded with hot water, and finally his hair combed with a wooden comb. Happy the children in this land of wooden combs whose hair is short and straight. Just think of having curls or being a little girl with long hair! I am afraid I should never wish to be washed and combed at all, "but rather go dirty, not fit to be seen," as the old rhyme has it. Do you wonder baby scolds and screams?

By and by, Deck-ran or Bed-ros, or whatever his name may be, begins to creep and stand. Then, pleasant summer mornings, you will find him in a little go-cart on the sidewalk just outside the door. Soon he will begin to toddle about by himself, and will find other toddlers to play with, making mud pies or chasing the hens and dogs about

the streets, and perhaps, though I am very sorry to say it, will throw stones at the Americans who pass by, and are known as Protestants.

When he is 3 or 4 years old, his mother will perhaps bring him to our kindergarten. It may be simply to get rid of him while she is at work, or it may be to keep her little child from running in the street with bad boys, and learning to be bad himself. One little fellow who was brought to us was such a "mother's boy." He cried and kicked till the teacher, with all her pleasant little devices, failed to pacify him; and then she brought him to my room, and we showed him the stuffed hen standing on the book-case. "Give it to me!" he said, in his baby Armenian. We set it on the table, and he looked at it intently for a moment, then went up to it and stroked it. "Does it bark?" he asked. You see, he had a little pet dog at home, and his idea of an animal's noise was barking. Another time he was allowed to take one of the bound volumes of St. Nicholas from the lowest shelf, where they were kept for little hands to reach, and, opening it on the floor, he amused himself a long time without making a sound. He used to like to come to my room, and would always go straight to the book-case, take out one of the bright red books, and nothing more would be heard from him till his teacher came after him.

Some of the children came to the kindergarten as early as 7 o'clock, although we often told them that half-past 8 was early enough. One little girl, a pretty little thing with fair curly hair, never wanted to stop for breakfast, but as soon as she awoke, would beg her mother to comb and braid her hair quickly, so that she could go to school. She had a nice home and fond parents, but I think she liked to play with the other little tots in the school-yard. The older children often take their breakfast with them to school, bread and cheese or just dry bread.

When baby gets cross and tired, what do they do to amuse him? Do you know the little rhyme, beginning, "Two little yellow birds sitting on a hill?" Well, they have something like that in Armenian, and baby likes to see the bird "fly away." Then they have an Armenian edition of "This pig went to market," etc., only there is no pig in it. If I tell you the Armenian, do you think you can say it? I'll try you, at any rate. These little things learn some English, why should not you learn their language? The thumb says: "Yeg oor, yer-tank." "Oor yer-tank?" asks the forefinger. "Haleb yer-tank," answers the middle finger. "Cheh-leb yer-tank," suggests the next. "Bij-jeh-lik-im, chid-deh-lik-im jam-pah chee-dem, Inch bees yer tam?" wails the little finger, which means: "I'm a wee little teeny thing. I don't know the way. How can I go?" —Harriet G. Powers, in Sunday School Times.

How Dimes are Made.

The United States mint in San Francisco is said to be the largest of the kind in the world. Just at the present time there is a lively demand for silver dimes, and two of the money presses have been running exclusively on this coin. The demand is so great that these machines are not even stopped on Sunday. The process of dime-making is an interesting one. The silver bullion is first melted, and run into two-pound bars. These in turn are run through immense rollers and flattened out to the thickness of the coin. These silver strips are then passed through a machine, which cuts them into proper size for the presses, the strips first having been treated with a kind of tallow to prevent their being scratched in their passage through the cutters. The silver pieces are then put into the feeder of the printing presses, and are fed to the die by automatic machinery at the rate of 100 per minute, 49,000 dimes being turned out in a regular working day of twelve hours.

As the smooth pieces are pressed between the ponderous printing dies, they receive the lettered and figured impression in a manner similar to that of a paper pressed upon a form of type; at the same time the piece is expanded in a slight degree, and the small corrugations are cut in its rim. The machine drops the completed coin into a receiver, and it is ready for the counter's hands. The instrument used by the counter is not a complicated machine by any means, as one might suppose. It is a simple copper-colored tray, having raised edges running

across the surface at a distance about the exact width of a dime. From the receiver the money is dumped on the board or tray, and as it is shaken rapidly by the counter, the pieces settle down into the spaces between the ridges.

All these spaces being filled, the surplus coin is brushed back into the receiver, and the counter has exactly 1,250 silver dimes, or \$125, on the tray, which number it requires to fill the spaces. The tray is then emptied into the boxes, and the money is ready for shipment. The dime does not pass through the weigher's hands as does the coin of a larger denomination. One and one-half grains are allowed for variation or "tolerance" in all silver coins from a dollar down, and the deviation from the standard in the case of the 10-cent pieces is so trifling that the trouble and expense of weighing the coins of this denomination is dispensed with.

"It is the biggest thing I ever struck." What? Why the business advertised in another column by B. F. Johnson & Co., 1009 Main St., Richmond, Va. If you are open to any engagement write them. They can show you a good thing.

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HUBBARD BROS., Philadelphia, Chicago, or Kansas City.

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The Senate is getting along well with the tariff bill. It is expected to finish it before the holiday recess.

A French chemist announces that sugar is an excellent agent for preserving meat and possesses some advantages over salt.

Mr. Holman, of Indiana, introduced a bill in Congress the other day to prevent crimes against the election laws. Some such bill is very much needed.

Our Greeley county weather reporter says the temperature during November was "far above normal, with an unusual amount of cloudy, foggy, humid weather."

The citizens of Tribune, Greeley county, are making arrangements to build a flouring mill at that place as soon as the Missouri Pacific railway company builds a depot, so a friend writes us.

For information concerning the Kansas Association of Trotting Horse Breeders and objects and plans, address J. Q. A. Shelden, Secretary, Wichita, Kas. Thirty entries are recorded for the Futurity stake for 1890.

A correspondent in Graham county asks for the opinion of farmers who have had practical experience, as to the value of barley for hog feed. And he wants some information as to proper time of sowing barley seed.

We are receiving a great many congratulations from friends, and we are doing our best to merit them. Here is one of many: "If ever a paper deserved to prosper, the *KANSAS FARMER* does." The paper grows with the years, and the field widens as we see more of it.

Our excellent contemporary the *Northwestern Live Stock Journal*, published at Cheyenne, Wyoming, began its sixth volume the 7th inst. in a new and much more attractive form. It is now a twenty-four-page paper, four columns to the page, stitched and trimmed. The new form is much more convenient to the publishers as well as to the readers and advertisers.

CULTIVATION AND RAINFALL.

In another column we refer to an article on the subject above-named which was published in the *McPherson Freeman*. It is this:

Increased rainfall on the western plains, with settlement and cultivation, seems from observation, to be verified. In its primitive state the country from the Missouri river to the Rocky mountains was a vast plain covered with buffalo grass. From exposure to the atmosphere, the surface of this region before being disturbed with the plow, is a very light color, while the grass that covers it becomes by the time it matures in midsummer, also a light color, the stems like broom straws, round and shiny, giving the plain, by July, an almost white and very dazzling appearance, converting it into a great reflector, covering a vast extent of territory. As an unpainted tin roof or a stubble field reflects the sun's rays, so do the unbroken plains of the West, covered with their almost white coating of buffalo grass. The tin roof when painted, and the stubble field when plowed, each cease to reflect the sun's rays. A July wind from a stubble field is heated to a point considerably above that which comes from an adjacent field of corn or grass, the light surface of the stubble field throwing the sun's rays and heat back into the atmosphere, while the green covering of the other is an absorbent, taking up instead of throwing back the heat. To claim that the altitude of the Western plains is above the rain belt is a mistake, as there is rainfall a part of the season and generally sufficient from April to July to make stalks promising a good crop, the loss of the crop occurring from the lack of rain necessary to mature the ear of corn in the months of July and August. In the late spring and early summer, the sun's heat is not so intense, and the green prairies not acting as a reflectant, the atmosphere does not become so heated as when the color of the plains change, reflecting instead of absorbing the rays of the sun. The heated atmosphere becomes highly rarified and expanding extends upward to a greater distance in the higher than in the lower altitudes, for the reason that there is less atmospheric weight above to keep the heated strata pressed down to the earth in the region of the plains, than in the lower regions along the coast.

The plains acting as a great reflector keep this heated atmosphere constantly rising without any counteracting force to cool the ascending currents; whereas green fields and woods not only do not throw back the heat of the sun's rays, but cool the ascending currents from the moisture in their foliage. As this heated strata of atmosphere is spreading over the plains arises, it dissipates the mist in the upper strata as a heated stove dissipates a drop of water that falls upon it. This heated atmosphere of the plains ascending to a great height, forces the mist, or clouds to such an elevation that they are driven off by the winds that are set blowing by reason of the greatly rarified air, rendered so by the vast radiator of heat, the buffalo-grass-covered plains. It is well known that clouds of apparently equal density in all parts, overshadowing a large area on the Western plains frequently shed their water only along the course of streams. The stream and the bottom lands on either side send up a moist and cool current of air, and this coming in contact with the mist of the upper strata produces just the condition necessary to cause the mist to form into drops when precipitation takes place, whereas the buffalo-grass-covered prairie acting as a reflector sends up a dry, heated current that dissipates the mist and no rainfall occurs. The clouds passing over the land shed rain when-

ever and wherever the conditions of the currents ascending from the earth's surface, are such as to cause the mist to form into rain drops. When these ascending currents are unnaturally heated, as they are by the heat of the sun's rays, thrown back by this great buffalo plains radiator, the conditions necessary to rain are wanting. Plowing turns under the buffalo grass and changes the color of the earth's surface, and hence destroys this great radiator of the Western plains.

Vegetation which holds green through the season, not only takes the place of the reflector, but by constant exudation moistens and cools the atmosphere, artificial ponds having the same influence. The surface of our Western prairies so compact, sheds water like a house roof, but broken, the soil garners the spring rains, giving off the moisture later, and with vegetation working a change in atmospheric temperature. An effort to grow a tender plant with a tin reflector near it on the north, would prove a failure. The soil might be good enough, but the reflector would have to be removed. So with our Western plains, the soil is good, but the reflector must be destroyed, and in its stead the elements substituted that will have a cooling effect upon the atmosphere. In May the atmosphere is not so heated, the buffalo grass is green, the reflector not so strong, and rainfall occurs. In July the atmosphere becomes heated, the buffalo grass matured and of a very light color, becomes a strong reflector and rains fall, yet clouds are perhaps as frequent as they were in May.

National Dairy Fair.

Arrangements were made at Chicago, during the time of the Fat Stock Show, to unite the dairy interests of the country, and it was agreed that a National Dairy Fair Association ought to be formed, so that national dairy fairs might be held in connection with other national displays at the annual Fat Stock Shows. In pursuance of that agreement, arrangements have been made for a meeting of dairy people at Springfield, Illinois, on the 15th day of January 1889, for the purpose of forming such an association. Mr. Horace J. Newberry, special correspondent of the *KANSAS FARMER*, who is Secretary of the committee having the matter in charge, says the object of such a fair is for practical exemplification of all dairy interests, including dairy products, implements and methods, in fact, a national school for the time being in which the public are observant students in all that pertains to dairy work.

The following breeders' associations have given the movement their support and appointed committees of three each, to represent them in the final organization, viz.: The Consolidated Cattle-Growers' Convention; the Illinois Short-horn Breeders' Association; the American Short-horn Breeders' Association; and Holstein-Friesian Association of America in convention. Other associations are requested to appoint similar committees, and report at once to the Secretary *pro tem*, Horace J. Newberry, Topeka, Kansas. Mr. Newberry will answer all letters of inquiry concerning details.

Writing of the movement against the "Big Four" dressed meat packers, a correspondent of the *Texas Farm and Ranch* says: "Of course there are two sides to a question, always. But one is the right and one is the wrong side in this case. We may grant some excess of prejudice against the Big Four and some lack of economy and foresightedness in the cattlemen, and some dearth of demand and some surplus of supply, some unreasoning complaints from

butchers and all the usual overabundance of excitement, exaggeration and enthusiasm, with probably a due measure of demagoguery, which belong to popular movements of any kind. But there is no rational explanation of the present state of the cattle trade except an absence of competitive markets, and to restore such competitive markets is the only end of the present undertaking, albeit to accomplish that end it may be necessary to scatter a nest of very prosperous business men in the packing business at Chicago."

Cultivation and Rainfall in Western Kansas.

Senator H. B. Kelly's paper, *McPherson Freeman*, contains an editorial article under the caption "Cultivation and Rainfall," suggesting a theory as applicable specially to the Western plains, and a friend asks us what we think of the theory. We believe that cultivated land will absorb and retain moisture better and longer than the wild, unbroken prairies will, and for that reason the "heated term" in a cultivated region, other things being equal, will be shorter than in an uncultivated region. The soil having more moisture stored, has more to give out, and that lengthens the period of its cooling influence on the atmosphere. If the ground were broken deep, very deep, leaving the broken subsoil lie below where it belongs, it would afford a vast reservoir of water, filling as the rains fall, supplying moisture to plant roots, and aiding much in keeping down the temperature of the air. We do not think the *Freeman* reflection theory well founded. It implies that color is both an absorbent and a reflector of heat. Bright tin reflects light better than painted tin; but is there any evidence that it will radiate heat as well? Philosophers tell us that rough surfaces are better radiators. When sheets of metal are used to protect wooden walls from the heat of stoves which are near them, smooth polished surfaces are used, but the color does not seem to be important. A polished metal surface will reflect light better than a rough surface of the same metal, but it will not reflect heat as well. The *Freeman* applies this reflection theory to growing grass and to dying or dead grass on the plains, arguing that when grass changes color in process of maturing, its heat-reflecting power becomes greater, and hence the atmosphere above it becomes warmer, sending up heated air currents, raising rain clouds so high as to be drifted beyond us by the upper currents before precipitation. A stubble field is a more powerful reflector, says our contemporary, than a field of growing corn or grass. True, perhaps, but is not dryness, rather than color, the reason of it? Oat stubble is yellow; rusted wheat stubble is brown; they both indicate the location of good heat generators, but whether color has anything to do with it, is at least doubtful.

Another fact, which our contemporary probably overlooked, is that on desert land where there is no vegetation, or not enough to consider, the ground and the air above it are warmer in the after part of a growing season than in the forepart. This has been reported many times. If the western one-third of Kansas and the eastern one-third of Colorado were all plowed in April and left lying without further work until September, the heat all over that area would be much greater in August than it was in June.

Cultivation and the growing of crops have a good deal to do with regulating temperature in any given locality, and for reasons suggested in the closing sentences of the *Freeman* article, but the color theory is hardly tenable. There is something helpful in what the *Freeman* says on the general subject. The article will be found in another part of the *FARMER* this week.

The report of the State Superintendent of Public Instruction shows the number of pupils enrolled in the public schools of Kansas to be 403,351; number of teachers employed during the year 11,310; average salary of teachers—male, \$41.01, female, \$33.65 per month; number of school buildings, 8,196; average length of school term, 24 weeks—6 months.

A subscriber whose time had expired two weeks before he wrote, asks us to "stop my paper," and he tenders us a bit of good advice in parting, namely—"You should not advocate a principle that is against 70,000 farmers and laborers in Kansas." He does not say or even intimate that we are advocating such a principle, or that, if we are, what particular principle he refers to. However we shall surely act on his advice and not "advocate a principle that is against 70,000 farmers and laborers."

Mr. H. S. Graves, of Sherman county, this State, as we see by a notice in the *Dark Horse*, sold this year \$1,100 worth of broomcorn from 100 acres of sod-breaking. The southwest part of the county produced several carloads of broomcorn, which is said by experts to be of the best quality, our atmosphere being rarified, the crop cures on the ground without the slightest mold. The farmers of that vicinity intend to profit by Mr. Graves' experience and are preparing to plant several hundred acres next spring. The crop brings about \$65 per ton in Chicago, and commission merchants advance \$30 per ton when delivered here.

As to wool, the *Reporter* says: Our wool markets now make interesting reading, as they exhibit so much activity, and their upward tendency is so evident to everybody. There is a shortage in the clip of the United States, and in fact the world over, and our own domestic deficiency must be made up by importation from abroad. The foreign markets have been correspondingly strengthened, and the increased cost of foreign goods will put the competition of imported fabrics on a higher basis of values, and enable our domestic manufacturers to obtain better prices for their goods. By referring to our English letter, it will be seen that the visible supply of wool in England is limited for the next three months. Thus the most conservative must be convinced of the genuineness of the present advance.

The twelfth annual meeting of the American Poland-China Record Co. and Swine Breeders' Institute will be held at the Grand Hotel, Cedar Rapids, Iowa, on the 16th of January (being the third Wednesday), at 1 o'clock p. m., and it will last during Thursday, the 17th. The first day will be devoted to the business of the company and Thursday will be given to the Swine Breeders' Institute for the reading of papers and general discussion that will be profitable and interesting to swine-breeders, especially for new beginners. The executive committee has prepared a program. Secretary John Gilmore (Vinton, Iowa,) writes: We have the promise of the presence of many of the most experienced breeders of the different States. All breeders of Poland-Chinas are cordially invited. We have arrangements made with the Western State Passenger Association to return persons who attend the meeting at one-third regular rates. Also reduced rates at the Grand Hotel. Last year's Institute was a grand success and we hope for improvement this year. Let there be a rousing meeting. Persons attending the meeting, who wish the benefit of the one-third fare returning home,

must pay full fare on each line traveled going and get a receipt from the agent of each line traveled, at the railway station, from the agent on each line going to the meeting, that they have paid full fare as delegates to the meeting.

What Indians Have Cost Us.

From the Smithsonian report of 1885 it appears that the several Indian wars after 1776, including the war of 1812 in the West and Northwest, the Creek, Black Hawk, and Seminole wars, up to 1860, were bloody and costly.

Except when engaged in war with Great Britain and Mexico, or during the rebellion (1860-65), the United States army was almost entirely used for the Indian service, and stationed largely in the Indian country or along the frontier. It will be fair to estimate, taking out the years of foreign wars with England (1812-15), \$66,614,912.34, and with Mexico (1846-48), \$73,941,735.12, and the rebellion (1861-65) and reconstruction (1865-70), \$3,374,359,360.02, that more than three-fourths of the total expense of the army is chargeable, directly or indirectly, to the Indians. (During our foreign wars, and the rebellion as well, many of the Indian tribes were at war with us, and others were a constant danger, a large force being necessary to hold them in subjection. Still, expense on this account is dropped from the estimate.)

The total army expense from March 4, 1789, to June 30, 1886, was \$4,559,419,924. Deducting \$3,514,911,007.48 for foreign wars and the rebellion, the remainder is \$1,044,508,916.25.

Two-thirds of this sum, it is estimated, was expended for war and other services incidental to the Indians, viz., \$696,339,277.68, fortifications, posts, etc., being deducted.

Total cost of the Indians to the United States.

Indian Department proper, from July 1, 1776, to June 30, 1886, \$232,900,006.34
Expended by War Department for Indian wars and incidental thereto from July 1, 1776, to June 30, 1886, 696,339,277.68

Total, \$929,239,284.02
Almost a thousand million dollars.

Mr. S. B. Jackson advises persons using thermometers to test them, and he gives the following directions: "Fill a vessel with snow or pounded ice (snow is best), immerse the bulb of the thermometer in the middle that it may be surrounded on every side by a layer of several inches; slightly press around the instrument; the stem must be placed exactly perpendicular and covered with snow as far up as the freezing point on the graduate scale. Let it stand so for half an hour or more in a room whose temperature is slightly above freezing; then take and read it, taking great care to place the eye at the small light as the summit of the mercurial column. If the top of the column does not coincide with the freezing point of the scale, the exact difference must be ascertained and correction immediately applied, and to all subsequent readings."

OUR "d-52" SUBSCRIBERS.

No doubt many of our subscribers have noticed "d-52" on the printed label of their paper. It means that the time of your subscription expires with the year 1888. RENEW NOW FOR 1889. You can send in a club of only six subscribers for one year and get your paper free. We want every subscriber to renew and send in as many more subscribers as possible. We want to make a better paper every year, and we will do it if every reader will help us just a little. Let us get ready now for a prosperous year in 1889.

Buffalo Breeding.

Our readers were informed, a year or more ago, that Hon. C. J. Jones, of Garden City, had begun experimenting with buffalo. He had at that time collected enough animals to make a show, but the number has been increased since by a large purchase in Manitoba, and now he has 127 full-blood buffalo about equally divided as to sex, and twenty-three cross bred animals, ranging from one-half to fifteen-sixteenths pure blood.

He says they eat whatever our native cattle eat, the bulls weigh 2,000 to 3,000 pounds, cows a little more than half as much. One steer that he slaughtered dressed 1,280 pounds. They are not difficult to herd, but he says that the bulls require a stronger fence than domesticated bulls. The cross is made by the buffalo bull and domestic cow. No case is known, Mr. Jones says, of offspring from a domestic bull and buffalo cow though frequently mated. Cross bred cows breed to domestic bulls readily. Improved milking qualities appear in the cross bred cows. He says the cross breeds face storms like the buffalo do. He advises the use of Gallo-way or Polled Angus on the grade cows. That cross has been tried; the meat is excellent, and the robes are next to seal skin. Crossing breeds away the hump and shaggy mane. The half-breed calf is very large at birth, which suggests that only "loose-made wide-hipped cows" should be permitted to bear them.

Mr. Jones' experiment is an interesting one. His object is to produce a breed of cattle having the good qualities of domestic breeds with the range qualities of the buffalo. He hands us some photographs showing the native buffalo, a half-breed calf and two yearling grades without hump or mane. Improvement is shown in each degree of crossing. Western farmers will await the outcome of this proceeding with much interest.

Kansas Railway Cars Run by Electricity.

It may be interesting to our readers, to know that Topeka is soon to have the longest railway in the world on which the cars are propelled by electricity. We copy from the *Capital-Commonwealth*:

"This electric railway plant is being put in by the Rapid Transit Company, and takes the place of the steam motor on their system, which now includes about fifteen miles of road. They propose to have the best in the market, and after thorough investigation they are satisfied that the electric railway is an improvement over everything else.

"The work is being rapidly pushed; nearly 200 men are now employed in wiring the track, putting up poles, surfacing, and building the plant. The plant has been located on the corner of Second and Jefferson streets and the men are now at work building the foundations. The boiler and engine rooms, etc., will cover 85 by 100 feet; an 800-horse power plant is being put in to generate electricity; two very fine engines will be put in, one of them an extraordinary large engine, being a 450-horse power Reynolds-Corliss of the best make with a fly wheel weighing twenty tons. The smoke stack will be 125 feet high, and 650,000 brick are required for the building. The company hope to have the plant in operation by January 1, and they will then commence running five cars; by May 1 the entire equipment of the system, which will include thirty cars, will be in operation. Elegant cars are now being built for the company by the St. Louis Car Company, and a number of them will be ready for delivery about the latter part of this

month; they are finished in cherry, lighted by incandescent light, and indeed will be the handsomest car operated on any street car line in the West. The motors are now being made at Lynn, Mass. By the electrical system the motor is on the truck under the car and is not visible to the public."

The Popular Vote.

The following table shows the total number of votes received by the Presidential candidates of the four parties in 1884 and 1888:

Parties.	1888.	1884.
Republican.....	5,437,582	4,848,334
Democrat.....	5,534,168	4,911,017
Prohibition.....	245,194	151,809
Union Labor (G. L. in 1887). ..	143,080	133,825
Total vote polled.....	11,360,024	10,044,985

About Listing Corn.

We are in receipt of a letter asking for reports from practical farmers who have tried listing corn, and we hope it will bring out many responses. The subject is important to all farmers. Here is the letter:

BURDEN, COWLEY CO., KAS., Dec. 7, 1888.

EDITOR KANSAS FARMER:—In a back number Mr. Swann wrote an article condemning the practice of double listing corn. I would like to inquire through your paper of the parties themselves what the result has been. I thought of planting some that way, but if others have failed with that method, as Mr. Swann seemed to think they surely would, I shall not try it. Listed corn is the best here again as usual, I think. The very early planting is not so good as what was planted later; the yield ranges from fifteen to thirty bushels per acre on upland. J. W. DARR.

Raising Corn in Western Kansas.

Mr. G. W. Hollenbach, of Coldwater, Comanche county, writes us concerning the alleged prevalent belief that corn in western Kansas is killed by hot winds in August and September. He says:

It is a mistake and a great one. The corn is killed in July in tasseling. Late-planted corn has done best. J. W. Colvin's letter published in your issue of November 22 contains sound advice on this subject, and if followed by farmers in western Kansas would be worth millions to them. Now, Mr. Editor, this ain't guess work with me; I can give the rainfall and temperature for the past five years in Comanche county, and it all points to early cultivation of the soil and late planting for successful corn crops.

The time when corn is injured by "hot winds" is when it is in the early stage of tasseling. The tassel, like the terminal bud of a plant, is very tender, and it is not able to resist the effect of a very high temperature suddenly blown upon it. The tassel is withered—killed, so to speak, losing its fertilizing properties; there is no pollen to fall upon the silk, hence no corn, though the stalk may continue green and growing. Many cases like this were reported in the KANSAS FARMER in 1887.

A Graham county friend writes us that "sorghum planted the middle of July made a heavy crop."

SPECIMEN COPIES.

We will be grateful to our friends and readers of the KANSAS FARMER if every one will send us a list of farmers' names and addresses, such as do not take the paper, as we wish to send them specimen copies with the hope of meriting their subscriptions. We want 50,000 subscribers, and if every reader will put forth a little effort at once in sending us names for free specimens, we will secure them. Send along your lists, friends.

ONE YEAR FREE.

The KANSAS FARMER will be sent one year free to any reader of this who will send ten trial three month's subscriptions at 25 cents each. Any one can easily do this in an hour any time. We might have many thousand new subscribers in a short time if every friend would make this effort. You get your paper for a year for a little effort, and do us and your friends a good thing.

Horticulture.

Transplanting.

Directions for transplanting need to be often repeated. It is not merely because young and inexperienced planters are going into this business every year. Those who have been often told what to do, frequently forget or are careless. They need line upon line, and after all many neglect the simplest precautions, through not thinking what they are doing. For one who has even a slight knowledge of trees and plants stopping to think while he is working will give better results than will the most carefully prepared rules without thought concerning them.

It is a great change for a tree or plant to be moved from where it has grown to some other place. With trees especially that have grown two, three or four years in the nursery row, it will be found that wide-spreading roots have formed, of which only a small part can be secured in digging up. But if the cultivation in the nursery has been thorough and deep, there will be many small, fine roots near the body of the tree. It is a common though mistaken idea that the trees from a neglected nursery, if of equal size, are as good as from one that has been thoroughly cultivated. They are not. Height and size of trees alone show little as to their value for planting. The experienced nurseryman buying a block of trees is careful to learn of their previous management. If the spaces between the rows are filled with grass and large weeds, he knows that cultivation has been neglected and the trees are in poor shape for transplanting.

When a tree is dug up its top needs cutting back, not only proportionally to the loss of roots, but much more. If every particle of root could be secured the top would still need trimming down to a few buds. What is wanted is a strong, vigorous growth. Each bud should make a branch, though if all are left there will be only sap enough to develop them into twigs. It is from having an excessive proportion of top to roots that some old trees are occasionally forced into premature bearing the year after transplanting. We have known men to boast that they get fruit from trees the year or year after they were set out; but such boasting only shows how little the boaster understands what he is doing. More commonly the tree thus treated dies instead of beginning to bear. If it does not die its vitality is weakened, so that it does not recover for years, if it ever does.

If the root has been exposed to the air for even a few minutes it also will probably need shortening back just before setting out. It always needs such cutting back when mutilated in digging. From a clean, fresh cut new roots will soon start, as they do from the base of a cutting. In contact with earth, and sand is still better, a sap exudes from the cut root out of which fine, white, thread-like rootlets start, soon growing in thickness and length as they begin to gather plant food from the soil. This takes some time, and for this reason it is better for late transplanting that trees shall be taken up and heeled-in, as it is called, some time before. This enables the root to make ready for starting rootlets as soon as the buds begin to grow. But the putting of a few strong buds on the tree for sap will start the roots to growing better than anything else. There is not nearly so strong a "pull" from a multitude of half-starved buds as there is from a few that are vigorous. With

newly planted trees it is best to let only three or four buds grow the first year, with grape vines only one, and that should be cut back to three or four buds, and only two of these be allowed to grow the second year.

In setting trees or plants it is not possible to give too much care in compacting fine soil among, under and on all sides of the roots. It is impossible to do this as perfectly as it was done in growing the roots when they pushed into and through the soil. If the roots are matted put some fine soil among them, puddle it with water, and add more soil until all the spaces are filled. Watered thus, and the surface covered with fine, dry soil, the roots will keep moist until new rootlets are formed. This is much better than the common practice of filling in with soil, and then pouring a half-pailful or more of water in the hole among the roots. It is easy to wash away loose soil, leaving the roots with an open space all around them. Trees often die from this cause, or worse still, linger along for years and never become vigorous and productive.

In setting out vegetables the same precautions must be taken as with trees, with, however, such variations as the different circumstances may suggest. The roots should be shortened in with a sharp knife just before setting. All the outside leaves of cabbage and celery should be stripped off. If the germ is left, new and vigorous leaves will soon form from that. Reducing the leaves is more important than shading from the sun, though in a hot day after planting in the morning a broad leaf over the newly set plant will be a great help. If the transplanting of vegetables is done towards night, and the outside leaves are stripped off, as they should, rootlets will form before morning, so that the plant will scarcely require further protection. The root will start into growing more quickly if the leaf is reduced so that it will not wither. The wilting of leaves, once begun retards the root growth and makes the recovery of the plant much slower and more uncertain.—*American Cultivator.*

Material for Tying Buds.

In multiplying young trees of various kinds by budding, the bud, as is well known, needs to be tied for a few weeks to exclude air and moisture until the process of growth causes it to adhere to the stock, so that in due time it may start off into growth and form a new tree or branch of a tree.

If only a few buds are to be inserted, some domestic material can usually be obtained with which to tie; woolen yarn, candlewick, strips of muslin—anything soft and of moderate strength. But where budding is a regular business, week after week, as it is in many places, cheapness is important in whatever may be used to tie. Heretofore the material in most extensive use has been the inner bark of the bass-wood, which, after the bark is stripped from the tree in June, and steeped in water a few weeks, separates into strong, thin ribbons. Occasionally also a somewhat similar product from Cuba has been in use. More recently, however, a preparation of the leaves of the *Raphia*, one of the palms from tropical Africa or the eastern coast of South America, has been coming into use and meeting with decided approval wherever it has been tried. It is long, soft, strong and cheap. One of the correspondents at the recent nurserymen's conventions where it was exhibited, characterized it as being "like corn husks but longer;" it is much stronger, however, and quite as soft as the finest corn husks.

Remember the FARMER is now \$1 a year.

Apple Tree Borers.

From Bulletin No. 3 of the Ohio Agricultural Experiment Station, devoted to the spring and summer treatment of apple orchards, we select the following on the apple tree borers, which are among the most common causes of injury to apple trees:

The Round-headed Apple Tree Borer.—The beetle is easily recognized by the brown color of its body, and the two conspicuous longitudinal whitish strips along its back. It appears early in summer and deposits its eggs on the tree trunks, in or under the bark, within a few inches of the ground, frequently placing them just above the soil surface, or even below it where the ground is cracked open so that the beetle can descend without difficulty. The insect makes a slit-like opening in the bark into which the egg is pushed. A few days later the egg hatches into a larva or grub, which gnaws its way into the inner bark or sapwood, where it continues to feed throughout the season. As winter approaches it frequently burrows downward below the surface of the ground, and rests there until spring, when it again works upward and gnaws the inner bark and sapwood as before. It rests again the following winter, and in spring gnaws its way deeper into the body of the trunk, cutting cylindrical channels in every direction. Late in summer it bores upwards and outwards to the bark, lining a cavity at the end of its burrow with dust-like castings, and there rests until spring, when it changes to the dormant chrysalis state. The adult beetle emerges from the chrysalis about a fortnight later, eats a hole through the bark, with its strong jaws, and comes forth to continue the propagation of the species. Thus three years are required for the development of the insect. The place where the larva enters may frequently be detected, especially in young trees, by the sawdust-like castings that are pushed out. The eggs also may often be seen, and are easily destroyed by pressing on the bark surrounding them with a knife-blade or some similar instrument. The presence of the larva is shown later by the discoloration of bark where it is at work. The full-grown grub or larva of the round-headed borer is about an inch long, wholly without feet, whitish, with a chestnut-brown head and black jaws. The pupa or chrysalis is lighter colored than the larva, and has numerous small spines on its back.

The Flat-headed Apple Tree Borer.—This insect is very different both in its adult and larval states from the one just discussed. The adult beetle instead of being cylindrical in form and brown in color, is flattened and greenish-black. It appears, however, at about the same season as the other, and the life histories of the two species are in general much alike, the chief difference being that the present species requires less time to develop, and attacks the tree higher up, being found all the way up the trunk, and frequently in the larger branches. The eggs of this insect are deposited early in the summer in the crevices, and under the scales of the bark, being fastened in place by a glutinous substance. In a few days the larva hatches and bores through the bark to the sapwood, in which it cuts broad flat channels, and sometimes completely girdles the tree. As it develops it bores farther into the solid wood, and when full grown approaches the surface. When ready to become a pupa it gnaws partially through the bark, and then casts its last larval skin. About a fortnight later the pupa changes to a beetle which gnaws its way through the bark, and thus completes the cycle of development.

Remedies.—Fortunately the injuries

not only of both of these borers, but also of the bark-louse discussed, may be prevented by a single easily-applied remedy. It consists simply in applying late in May or early in June, and again about three weeks later, a strong solution of soft soap, to which has been added a little crude carbolic acid. This mixture may be conveniently made by mixing one quart of soft soap or about a pound of hard with two gallons of water, heating to boiling, and then adding a pint of crude carbolic acid. The solution should be thoroughly applied (a scrub-brush is excellent for the purpose) to the trunk and larger branches of the tree. If the bark of the trees is especially rough it should be scraped before the wash is applied; and the soil should be smoothed down about the base of the trunk, so that there will be no cracks for the insects to enter to deposit their eggs. Of course the object of this application is to prevent the laying of eggs from which the grubs hatch. As an additional precaution it is well to examine the trees during the late summer and early autumn months for eggs and young grubs, which are readily detected, and can be easily destroyed with a knife. In this way one man can go over an orchard of 500 or more young trees in a day.

The soap and carbolic acid wash can also be successfully used in freeing trees infested with the apple-tree bark louse whose presence is detected by the presence of minute oyster-shell shaped scales on the bark of the limbs. If one of these scales be raised early in spring there will be found beneath it a mass of yellowish or whitish eggs, which hatch about the middle of May into small lice, which appear as mere specks to the naked eye. These move about over the bark a few days, when they fix themselves upon it, inserting their tiny beaks far enough to reach the sap. Here they continue to increase in size, and by the end of the season have secreted scaly coverings. As has been mentioned above the soap wash recommended for the prevention of borers also effectually destroys this pest. The mode and time of application for the two kinds of insects is the same.



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The Poultry Yard.

ABOUT THE BREEDS.

The November *Poultry-Keeper* has an extended article discussing the breeds of poultry, with their points of excellence. It is too long for one issue of the *FARMER*, but we will reprint it in parts from week to week until it has all been given to our readers. The *Poultry-Keeper* is good authority.

We would advise every reader to buy the new *Standard of Excellence* as soon as it is issued, as it gives the points in detail, and more minutely than any other book. Every one who undertakes the management of poultry should be familiar with the breeds. The points should be studied, the characteristics well understood, and the little peculiarities of each fowl noticed. The difference between profit and loss is often the difference between two breeds. If Leghorns are favored, it is important that the poultry-keeper knows all facts pertaining to the breed. He must make his fences high, understand that in winter their combs are liable to damage, and that they are not endowed with heavy feathering. Understanding these matters he prepares himself to use Leghorns, well knowing that while he may have a few obstacles in his way, that these persistent little layers will fill the egg basket and give general satisfaction. If the Brahmas are to be kept the fences need not be very high, the roosts should be low, and the quarters contain plenty of room. He may expect them to be slow in growth, but as they are heavily feathered, and have low, pea-combs, they will endure the winter and lay during cold weather if well cared for, but do not lay so persistently as the Leghorns, as the Brahmas usually insist on hatching a brood or two. Every person who keeps fowls and gives no thought to the breeds, works in the dark. He knows not what his chicks will be, cannot estimate as to what may be expected from their sale, and cannot produce superiority in the flock. Every breeder should know his business, and in order to do so should familiarize himself with the characteristics of every breed.

LIGHT BRAHMAS.

The Light Brahmas have been favorites for years, and are destined to hold a high place among our breeds for a long time yet. In color they are white, with yellow legs, which are feathered on the outside to the end of the toes, the middle toes also being feathered, but not the inner ones. The beak, which should be yellow, has a dark stripe down the upper mandible, though it is not always required in hens. The comb is pea-shaped, rather higher in the center than at the front and rear, the comb having the appearance of three small combs, the center being the highest, in color red, and the serrations even. The ear-lobes are red and rather large. The wattles of the hen are small, but of medium size for the cock.

The breast should be full, and with the body, white, though bluish white is sometimes the under-color. The hackle of the cock should be white on the upper part, the remainder white but having a black stripe running parallel with the black being in the center of the white and tapering to the end. The hackle of the hen is black with white edge running parallel with the black, and the feathers at the flat of the back, or white and black. The wings of the cock and hen are small, with the bows white, black being present at times on the front of the bows of

the cock. The upper web of the secondaries should be black and the lower web white. The primaries of the cock should be as near black as possible, while those of the hen should be black and white. The tail of the cock should be black, full, the curling feathers underneath being white, or white and black, with greenish black coverts and sickle feathers, the lower coverts being the same color, with white edging. The tail of the hen is also black, rather small, the two highest feathers white-edged, with black tail coverts also edged with white. The Brahmas have abundant soft fluff, giving the birds that broad appearance so noticeable, the color of which is white. The back is broad and rather flat near the hackle, while the body is deep. The cocks should weigh twelve pounds and the hens ten, while the cockerels should reach ten pounds and the pullets eight. These weights are necessary, if they are to be shown at the fairs, as two points are deducted for each pound below requirements, and in judging them the weight is given 13 points, legs and toes 6, and symmetry 10, fluff 5, wings 7, tail 7, back 6, breast and body 10, neck 10, ear-lobes and wattles 5, head 5, comb 8, and condition 8, making a total of 100 points. At the fairs the birds are required to match in the show pen, or be disqualified, and the same misfortune will happen should the comb fall over to one side, the wings have twisted feathers or the legs be of any color but yellow, or fail in the feathering down the sides and to the end of the toes, not admitting even the middle toe feathering. Vulture hocks are also among the disqualifications, and so are wry tails and crooked backs as well as black in the web of the feather, though slight dark or black stripes are permitted in the saddle of the cocks near the tails. No cocks are permitted to compete for premiums that do not weigh nine pounds, nor cockerels that do not weigh seven and one-half pounds. The hens must also weigh seven and one-half pounds and the pullets six pounds. It will be seen that there is quite a proportion of black in the plumage of a Light Brahma, as may be noticed on the wings, hackle, and tail, and it is the strong contrast of the colors with the white that often sets them off to such good advantage. The hackles of the hens are not always secured of the proper mingling of colors, and judgment is required in mating them so as to secure the largest number of exhibition birds. Light Brahma chicks, says the *Fanciers' Gazette*, come from the shell with a sort of creamy white or yellowish downy plumage throughout. Absolute buff in color we would reject as an evidence of impurity. A chick showing traces of black on the back of head, or bluish slate along the back, and black in tail, as a rule, will mature altogether too dark in color of neck and back. Some breeders will disagree with us on this point, but to us it is a satisfactory evidence of too dark a mating in the breeding birds, and one which we would break up just as soon as discovered, if we had anything else to breed from. Another point, as to the proper mating of the parent birds, can be discovered as soon as the chicks appear, viz.: If the feathering on the outer or middle toe is completely lacking, i. e., destitute of downy plumage, should change the mating of the old birds at once, since it would be unwise to continue it when it is plain that one is breeding a stock of chicks which, in nearly every case, at maturity will lose

from one to three points in their score; and if these deficiencies can be in a measure remedied on seeing the first hatching, why not make the change? The Standard demands well-feathered outer and middle toes. No amount of argument will save a destitute specimen, and this rule of discovery will prove almost infallible. The largest size and best feathered on toes at hatching prove to be cockerels in the end.

We hope others will watch this point, as it will apply to other breeds or varieties with equal force; there may be nothing in it. At about three weeks old, or a little older, the serrations on comb are developed sufficiently to be able to say whether the comb will ultimately be well serrated, and the three sections of the same can be discovered. Also the much desired black stripe on beak will begin to appear, and by its intensity, especially in cockerels, one can discover whether or not the chances are good for a sufficient amount of black in neck. At this age the chicken feathers begin to appear, and from this time until maturity the change of plumage is constantly going on; little by little it presents itself, first on neck, then on breast, then on back and tail, and no sooner than this is complete, the neck begins to change, the chick feathers fall out and the adult hackle appears, little at a time, which is at from four and one-half to five months. The backs of pullets from three to five months old are not unfrequently spotted with black, and the under color dark, but unless over abundant, there is no necessity for alarm since in a great majority of cases on these falling out they will be replaced by those of standard color.

BEST MATING.

The cockerel so dark in undercolor as to be bluish-slate color, coal-black tail and sickles, with lesser coverts slightly edged with white, black cape, dark wing butts, nearly black flights, in form of structure, comb, wattles, legs as described in the standard; or a cock, that as a cockerel was as above described, that has retained the dark sufficiently to show a black tail and sickles, also tail coverts, no matter if the lesser coverts have come out white. To such males mate your show pullets with white undercolor of black, from which to secure the show cockerels so much coveted.

MATING NO. 2.

For a mating of pullets—less care for cockerel progeny considered—mate a cockerel with good bluish-white undercolor, with a back white, with ticks about the saddle near the tail, fine comb, fair weight, and as little straw color as possible in his surface color. To such mate your pullets white in back, with tolerably good hackles,

what breeders term medium light specimens; from this mating you would have some good males, and a majority of the females good. A correspondent of the *Poultry Monthly* says that mating Light Brahmas to secure the largest number of high scoring chicks will be secured by use of a young male that has slaty-blue undercolor on back, neck plumage white striped with metallic black, the black coming to a point of the feather; the surface color of back white, the stiff tail feathers black, the sickles and coverts black, the lesser coverts black edged with white, and wing flights as nearly black as possible. Now such a male should have young hens with neck plumage black with a distinct white lacing to the feather, back white, the under color white, tail black, and coverts black edged with white.

Don't Crowd the Fowls at Night.

EDITOR KANSAS FARMER:—There is so much written about poultry it seems that every one should know the commonest details of the business. I find people visit my yards with very absurd ideas. Some say they didn't know crowding at night would hurt chickens, thought it was their nature, etc., as if a hen could rest and be ready for next day's duty crowded and stretched up over the backs of others with no room to sit down. I am considered one of the "lucky ones," yet I always keep more in a house than the "allotted number." Hens are fools (I must say it if I do love them); they will go to the back or highest roost if there is any. I have mine all low. In one house I set them out from the wall so I can pass all around them. I never leave mine at night without separating, and I feel repaid by their cheerful songs—oftimes a real concert in the dark. I always feed regularly, and give variety.

SARAH S. SEYMOUR.

She Couldn't Understand It.

"What in the world has happened to you since the last time I saw you?" asked one lady of another when they met on the street the other day; "I can't understand it. Then you were pale, haggard and low-spirited, and I remember you said that you hardly cared whether you lived or died. To-day you look ever so much younger, and it is very evident from your beaming face that your low spirits have taken flight." "Yes, indeed," was the reply; "and shall I tell you what drove them away? It was Dr. Pierce's Favorite Prescription. I was a martyr to functional derangement until I began taking the 'Prescription.' Now I am as well as I ever was in my life. No woman who suffers as I did ought to let an hour pass before procuring this wonderful remedy."

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The Veterinarian.

[This department of the KANSAS FARMER is in charge of Dr. F. H. Armstrong, V. S., Topeka, a graduate of Toronto Veterinary college, who will answer all inquiries addressed to the KANSAS FARMER concerning diseases or accidents to horses and cattle. For this there is no charge. Persons wishing to address him privately by mail on professional business will please enclose one dollar, to insure attention. Address F. H. Armstrong, V. S., No. 114 Fifth St. West, Topeka, Kas.]

CONTRACTED TENDONS.—What can be done to relax the contracted tendons of a fore limb of an 8-months-old colt? Injury caused by a slight cut under and in rear of fetlock joint. Severe inflammation set in and continued four months. Five different openings for discharge of matter formed between the injury and shoulder. All now healed, leaving limb so that the foot cannot be brought forward enough so but that it (the colt) treads upon the joint just above the foot.

—It is probable that but very little can be done for your colt. We can only resort to the repeated stimulation of the parts along the course of the tendons. This can be done by the use of some good liniment, or better still, powdered cantharides, $\frac{1}{2}$ drachm; biniodide of mercury, $\frac{1}{2}$ drachm; lard, 1 ounce. Mix; make ointment. Rub in quite thoroughly over part that is thickened. Wash off in about twenty-four hours, and keep parts greased. Repeat blister in about three weeks. The animal may outgrow it in a measure. As a last resort, tenotomy can be performed; that is, severing of the back tendons. Can only be performed by an expert.

WORMS.—Please state through the KANSAS FARMER the best treatment for lambs and calves afflicted with small hair-worms in the stomach and intestines.

—We have many species of worms infesting the stomach and intestines of the domestic animals. Some that are detrimental, others again, as the thread-worms, that apparently are harmless. It may be these that have attracted your attention. You can dispose of them, however, with the following: Santonin, 1 to 2 drachms; asafetida, $\frac{1}{2}$ drachm; one drachm to be given in a little water after animals have been kept from food some hours. On the contrary you may be alluding to worms that are present in hoose or husk in lambs or calves; that more particularly infests the lungs and bronchial tubes, yet have been frequently found in the intestinal canal in large numbers as to give rise to aggravated symptoms which terminate fatally when no worms or eggs can be detected in lungs or bronchi. If you are suspicious of the latter trouble describe symptoms and write us again and we will gladly respond with treatment.

BLACK-LEG—Please state in your valuable paper whether or not there is any preventive for black-leg in cattle. I hear some talk among cattle-raisers of "nerving" them as a preventive. If you know anything of it please state how it is done.

—We do not know anything about the practice of nerving. The prevention of anthrax in any of its forms, is a matter of great importance. It has been affirmed that this disease is more commonly met with since the introduction of artificial manures, and that it is due to the presence of the nitrates conveyed from the soil to the blood in the water and herbage. But it occurs where artificial manures are not used. Speaking generally, the causes, which tend to the production of this class of blood diseases is said to be associated as follows: More prevalent on rich lands when undrained; on dry lands in wet seasons when temperature is high; animals in high condition; changing animals from a sparse diet to one very abundant or highly nutritious; animals highly fed and no exercise.

Preventive Treatment:—The introduction of seatons is regarded as quite ef-

fective. They operate by increasing the fibrin in the blood which is so notably deficient in that disease. The seaton is inserted quite deeply in the dewlap or breast of animals, when the disease has made its appearance in a neighborhood. In addition to seatons the chlorate of potash is to be given mixed with animal's food or water several days, the diet in the meantime being restricted. The measures to prevent the spread of anthrax would be: That owners of such diseased animals declare their presence; isolate from healthy ones; avoid driving to drink or pasturage; destroy incurables; bury deeply or burn all carcasses, litter and alimentary matter; disinfect premises. Great care should be used in handling such diseased animals as the disease is communicable to the human family.

FISTULA.—Mrs. C. T. S.—Fistulous withers has its origin in a simple abscess, the result of a blow or other local injury. The abscess if not relieved gives rise to more serious conditions and that is the gravitating of the pus in various directions with the formation of sinuses, thus assuming a chronic condition which renders animal valueless unless relieved. For the successful treatment of such cases it would seem necessary that the extent and direction of the fistulous track be ascertained. By means of a probe find its direction, and at its lowest point an incision should be made from which matter may flow as it forms. Tie a tape in wound. Syringe out daily with lukewarm water, after which dress with a small quantity chloride of lime $\frac{1}{2}$ drachm, to water 1 quart. When the swelling disappears and pus ceases, pull out tape. In obstinate cases it often becomes necessary to freely open up sinuses and treat like an ordinary wound. This of course is only safe in the hands of those that are acquainted with the parts.

—J. H. C.—You can obtain the instrument of Chas. Truax & Co. 77-79 Wabash Ave., Chicago, Ill.

Every Day.

There is something remarkable, truly, in the exhibit; just think of it; every day without cessation a stream or current testimony to the surpassing merits of a good thing, which has proved itself to be a benefaction to mankind pours in. The testimony is strong, fresh convincing, and is now being published to show the unabated popularity of the great remedy for pain St. Jacobs Oil. The latter is prompt, sure, permanent in effect and always worth its price.

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Look HERE, FRIEND. Are you Sick?

Do you have pains about the chest and sides, and sometimes in the back? Do you feel dull and sleepy? Does your mouth have a bad taste, especially in the morning? Is there a sort of sticky slime collects about the teeth? Is your appetite poor? Is there a feeling like a heavy load on the stomach, sometimes a faint, all-gone sensation at the pit of the stomach, which food does not satisfy?

Are your eyes sunken? Do your hands and feet become cold and feel clammy? Have you a dry cough? Do you expectorate greenish colored matter? Are you hawking and spitting all or part of the time? Do you feel tired all the while? Are you nervous, irritable and gloomy? Do you have evil forebodings? Is there a giddiness, a sort of whirling sensation in the head when rising up suddenly? Do your bowels become costive? Is your skin dry and hot at times? Is your blood thick and stagnant? Are the whites of your eyes tinged with yellow? Is your urine scanty and high colored? Does it deposit a sediment after standing? Do you frequently spit up your food, sometimes with a sour taste and sometimes with a sweet? Is this frequently attended with palpitation of the heart? Has your vision become impaired? Are there spots before the eyes? Is there a feeling of great prostration and weakness? If you suffer from any of these symptoms, send me your name and I will send you, by mail,

One Bottle of Medicine FREE

Send your address on postal card to-day, as you may not see this notice again.
Address, naming this paper, Prof. HART, 212 E. 9th St., N. Y.



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Freight paid. Guaranteed. Hundreds in use. Circulars free. S. H. Garrett, Mansfield, O.

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And one IMPORTED PERCHERON STALLION—an excellent breeder.

Also, one ENGLISH COACH STALLION—very fine. Address **D. H. SCOTT, Topeka, Kansas.**

KEEP THE POWER APPLIED.

Most of our subscribers begin their terms of subscription with the calendar year; hence, the time for which a large majority of our subscriptions are paid, expires with 1888. This is to remind them that the end of the year is within a few weeks. The letter and figures "d52" affixed to the address on your paper means the subscription expires with No. 52, the last issue of the year.

We urge upon all our friends to renew and to do it before rather than after the time has expired. All the names of subscribers with their postoffice address and time are in type on our mailing lists. It will save us trouble and mistakes if we do not have to change any part of this except the time. But there is a much more important reason than this for our request. The KANSAS FARMER has grown to be a recognized power in public affairs, just what farmers need, and it would be suicidal on farmers' part to do anything or omit to do anything which will weaken its influence. No other paper of its class has one-fourth the circulation in Kansas which the KANSAS FARMER has, and it is the only one of them which has any influence with the Kansas Legislature or with Kansas Senators and Representatives in Congress. We ought to grow stronger, not weaker.

Our interests are mutual; makers of the paper and its readers are alike to be benefited by its growth. The larger its circulation the wider its field of usefulness, paying its way at both ends of the line. We call attention specially to the fact that the KANSAS FARMER, with its present size and price, is the cheapest farm paper published in America. Just a moment ago, as these words were running off the pencil point a well-dressed gentleman called in the office to subscribe for the paper, and upon retiring said—"I get the next number next month, do I?" "Next week, sir," the manager answered, "the KANSAS FARMER goes out every week." "Great God!" said the stranger, "a paper like this every week for a dollar a year!" and he walked away turning over the leaves. The price is, indeed, very low—made so because times were close with our patrons. We have done all that is possible for us to do in that direction now; but as fast as the increase in our subscription will justify improvement and enlargement, our readers will see the effect. We propose to hold the position already gained and to go ahead as fast as possible. Let every subscriber get one new name if he cannot raise a club.

How to Get a Useful Little Book for Nothing.

For a limited time we make the following offer: To every one of our readers who will send us the name of one NEW yearly subscriber and one dollar, we will send one copy of "PEPPER'S TARIFF MANUAL."

For \$1.50 we will send Blake's Weather Tables for 1889 and the KANSAS FARMER one year.

A little grain, ground, given to the milch cow will enable her to give you firmer, finer-flavored butter, says a writer.

THE MARKETS.

By Telegraph, December 10, 1888.

LIVE STOCK MARKETS.

St. Louis.

CATTLE—Receipts 2,000, shipments 1,000. Market strong. Choice heavy native steers \$4 00a5 00, fair to good native steers \$4 40a5 10, medium to choice butchers' steers \$3 30a4 50, fair to good stockers and feeders \$2 00a3 20, grass rangers \$2 10a3 10.

HOGS—Receipts 5,000, shipments 1,000. Market 5a10c lower. Choice heavy and butchers' selections \$5 15a5 35, medium to prime packing \$4 80a5 00, ordinary to best light grades \$5 00a5 20.

SHEEP—Receipts 555, shipments Market strong. Fair to choice, \$3 00a4 30.

Chicago.

CATTLE—Receipts 11,000. Market steady; quality poor. Top natives, \$5 40; top Texans, \$3 25; best steers, \$4 25a5 40; good, \$3 80a4 20; medium, \$3 25a3 70; common, \$2 75a3 15; stockers, \$2 00a2 50; feeders, \$2 75a3 25; bulls, \$1 50a 2 25; cows, \$1 15a2 75; Texas steers, \$2 10a3 25; Texas cows, \$1 60a2 00.

HOGS—Receipts 21,000. Market 5a10c lower. Mixed, \$5 05a5 30; heavy, \$5 10a5 40; light, \$5 05 a5 30; skips, \$4 90a5 00.

SHEEP—Receipts 7,000. Market steady. Natives, \$3 00a4 50; Texas, \$3 25a3 25; lamba, per cwt., \$3 00a5 50.

Kansas City.

CATTLE—Dressed beef and shipping steers, \$3 20a3 65.

HOGS—The market was irregular. Some early buyers, including speculators, paid \$5 17a5 25 for a few loads.

SHEEP—Receipts since Saturday 778. Market steady. Sales at \$2 75a3 30.

HORSES—

Draft—Extra.....5 to 7 years.....\$145 to \$180
Draft—Good.....5 to 7 years.....110 to 145
Saddlers.....5 to 7 years.....115 to 200
Mares—Extra.....5 to 7 years.....145 to 170
Mares—Good.....5 to 7 years.....75 to 110
Drivers.....5 to 7 years.....115 to 170
Drivers—Good.....5 to 7 years.....75 to 110
Streeters—Extra.....5 to 7 years.....115 to 130
Streeters—Good.....5 to 7 years.....70 to 105

MULES—

14 hands.....4 to 7 years.....\$ 65 to \$ 80
14½.....4 to 7 years.....80 to 100
15.....4 to 7 years.....95 to 115
15½, medium.....4 to 7 years.....110 to 125
15½, extra.....4 to 7 years.....130 to 155
16 to 18½.....4 to 7 years.....150 to 185

PRODUCE MARKETS.

New York.

WHEAT—No. 2, \$1 05a1 05½.
CORN—No. 2, 47c.

Chicago.

Cash quotations were as follows:

FLOUR—Firm and unchanged.

WHEAT—No. 2 spring, \$1 04a1 04½; No. 3 spring, 88a95c; No. 2 red, \$1 04a1 04½.

CORN—No. 2, 34½c.

OATS—No. 2, 26½c.

RYE—No. 2, 51c.

BARLEY—No. 2, 76c.

FLAXSEED—No. 1, \$1 54.

TIMOTHY—Prime, \$1 50a1 54.

PORK—\$13 37½a13 50.

LARD—\$8 05a8 07½.

Kansas City.

WHEAT—Receipts at regular elevators since last report 3,577 bushels; withdrawals, ... bushels, leaving stock in store as reported to the Board of Trade to-day, 298,047 bushels. There was a steady market to-day on 'change. On the call the only sale was No. 3 red, December, at 83c.

CORN—Receipts at regular elevators since last report, 15,135 bushels; withdrawals, 16,483 bushels, leaving stock in store as reported to the Board of Trade to-day, 46,228 bushels. There was a weaker market on 'change to-day, with no sales on the call except No. 2 May at 29½c.

OATS—No. 2 cash, no bids, 23c asked.

RYE—No. 2 cash, no bids nor offerings.

HAY—Receipts 46 cars. Market weak. Fancy prairie, \$7 50; good medium, \$5 50a6 00.

SEEDS—We quote: Flaxseed, \$1 30 per bu. on a basis of pure. Castor beans, \$1 35 per bu. for prime.

OIL-CAKE—Per 100 lbs. sacked, f. o. b., \$1 25; \$12 00 per 1,000 lbs.; \$22 00 per ton; car lots, \$21 00 per ton.

FLOUR—Quotations are for unestablished brands in car lots, per ½ bbl. in sacks, as follows: XX, \$1 00; XXX, \$1 10; family, \$1 30; choice, \$1 65; fancy, \$1 90; extra fancy, \$2 10a 2 20; patent, \$2 40a2 50.

BUTTER—Receipts larger and market weak for creamery. We quote: Creamery, fancy, 30c; good, 25c; dairy, fancy, 22c; good to choice store-packed, 13a16c; poor, 10c.

CHEESE—We quote: Full cream, twins, 12a 12½c; full cream, Young America, 12a12½c.

EGGS—Receipts of strictly fresh fair and market weak at 20½c per dozen.

APPLES—Supply large; \$1 25a2 00 per bbl.

POTATOES—Irish—Market well supplied; home-grown, 30a35c per bus.; Colorado and Utah, 50a55c per bus.; Iowa and Nebraska,

choice, 30a35c per bus. Sweet potatoes, white and red, 50c; yellow, 65a75c per bus.

BROOMCORN—Green, self working, 4c; green hurl, 4½c; green inside and covers, 2½a 3c; red tipped and common, self working, 2c; crooked, 1c.

PROVISIONS—Following quotations are for roundlots. Joblots usually ¼c higher. Sugar-cured meats (canned or plain): Hams 10½c, breakfast bacon 10½c, dried beef 8c. Dry salt meats: clear rib sides \$7 25, long clear sides \$7 00, shoulders \$6 50, short clear sides \$7 00. Smoked meats: clear rib sides \$8 25, long clear sides \$8 00, shoulders \$7 25, short clear sides \$8 00. Barrel meats: mess pork \$13 75. Choice tierce lard, \$7 75.

SEEDS—10 pkts Vegetable, 25c, 8 Flower, 10c, 6 Fine House Plants, 25c. All for 50c. Catalogue and spicy floral paper free. A. C. Anderson, Leigh, Nebraska.

JEWEL The earliest and best market grape known. Vigorous and productive. Sold at 20 cents per pound, wholesale. Price, \$1.50 each; \$15.00 per dozen.

STATMAN STRAWBERRY Large and firm; produced at the rate of 30,000 quarts per acre. Send for testimonials. STATMAN & BLACK, LEAVENWORTH, KAS.



379 VARIETIES OF FRUIT TREES, VINES, PLANTS, ETC. Apple, Pear, Peach, Cherry, Plum, Quince, Strawberry, Raspberry, Blackberry, Currants, Grapes, Gooseberries, &c. Send for Catalogue J. S. COLLINS, Moorestown, N. J.

Hart Pioneer Nurseries

FORT SCOTT, KAS.

Established 1865. 460 Acres. Full line of Nursery Stock. Forest Seedlings for Timber Claims and Apple Trees for Commercial Orchards a specialty. Large Premium for planting forest trees in spring of 1889. Treatise on cost and profit of apple orchard, free on application. Good salesmen wanted.

Black Walnuts & Butternuts

FOREST TREE SEEDLINGS.

Black Walnuts and Butternuts, hulled, for planting, at 40 cents per bushel, free on board cars here. All kinds of Forest Tree Seedlings. Send for Price List. Address BAILEY & HANFORD, Makanda, Jackson Co., Ill.

LEE'S SUMMIT NURSERIES

APPLE TREES TWO AND THREE YEARS old, of most excellent quality, offered at low rates by the 1,000 or by the carload. Also Peach, Plum, Grapes, etc., etc. J. A. BLAIR & SON, Proprietors, Lee's Summit, Jackson Co., Mo.

—THE— KANSAS HOME NURSERY

OFFERS

BEST HOME-GROWN TREES. Choice Fruit and Ornamental Trees of real merit for the Western Tree-Planters. Also best Fruit and Flower Plants. Water-proof. Samples by mail, 10 cents each; \$6 per 100, by express. A. H. GRIEBA, Drawer 23, Lawrence, Kas

Mount Hope Nurseries

ESTABLISHED 1869.

Offer special inducements to the Trade and large Planters. A full stock of everything. A heavy stock of Standard and Dwarf Pear Trees and Cherry Trees. Quality unsurpassed, and all home-grown. Nurserymen and Dealers supplied at lowest rates. Best of shipping facilities. Let all who want nursery stock correspond with us. State your wants. A. C. GRIEBA & BRO., Drawer 13, Lawrence, Kansas.



Come, Fellow Farmers!

It is the good things and the new things you want. Here is a Catalogue full of them! Do you want tested seed, raised from stock selected with extra care, grown from the best strains, got from the originators? I aim to have mine just such. Do you want new varieties that are really good, and not merely novelties? I aim to have mine such. Do you want seed that the dealer himself has faith enough in to warrant? I warrant mine, as see Catalogue. Do you want an exceptionally large collection to select from? Mine is such. Do you want them directly from the grower? I grow a large portion of mine—few seedsmen grow any! My Vegetable and Flower Seed Catalogue for 1889 FREE to everybody. JAMES J. H. GREGORY, Marblehead, Mass.

HAGEY & WILHELM, COMMISSION MERCHANTS ST. LOUIS, MO.

REFERENCES:—KANSAS FARMER Co., Topeka, Kas.; Boatmen's Bank, St. Louis; Dunn's Mercantile Reporter, St. Louis; First National Bank, Beloit, Kas

GENERAL AGENTS FOR COOPER'S SHEEP DIP.

We guarantee sale and full returns inside of TEN DAYS from receipt of shipment.

SEEDS 51st YEAR

FRESH AND RELIABLE. BUY NO OTHERS Seed Store at your door. Send for our illustrated catalogue of everything for the Farm and Garden. J. M. McCULLOUGH'S SONS, CINCINNATI, OHIO.

LA CYGNE NURSERY. MILLIONS

Fruit Trees, Shade Trees, Small Fruits. Vines, Ornamental Trees, Etc.

TEN MILLION FOREST TREE SEEDLINGS.

ONE MILLION HEDGE PLANTS.

ONE HUNDRED THOUSAND TWO-YEAR APPLE TREES—Grown from whole root grafts.

FIVE THOUSAND IRISH JUNIPERS—Two-feet, SPLENDID WALNUTS, and other forest tree seeds and nuts, prime and fresh.

Full instructions sent with every order, and perfect satisfaction guaranteed. Send for full list and prices. Address

D. W. COZAD

Box 25, LACYGNE, LINN CO., KANSAS.

FOR THE HOLIDAYS!

C. E. BUHRE,

623 KANSAS AVE.,

Carries the Finest Line of

DIAMONDS,

JEWELRY

AND WATCHES

IN THE CITY.

ALL REPAIR WORK

Done Promptly and Satisfactorily.

CITY HOTEL, CHICAGO, ILL.

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W. F. ORCUTT, Prop'r. Special rates to Stockmen and Shippers \$1.50 PER DAY. Good accommodations. One hundred rooms.

Nearest Hotel Outside Union Stock Yards.

Cable cars pass Hotel to all parts of city and depots. Telegraph office in hotel.

The Busy Bee.

How Bees Make Cells.

In *Murray's Magazine* we find the following explanation of the geometrical forms which the cells of the honey comb assume: Recent measurements and observations have tended to dissipate the cell myth, and to show not only that honey comb is far from regular, but that such regularity as it has is due merely to mechanical conditions.

Mr. Frank Cheshire tells us in his recent volume, that careful measurements of the finest pieces of comb, built with every advantage for securing regularity, show that so far from every cell being geometrically accurate, it is difficult to find a hexagon presenting errors of less than three or four degrees in its angles. On the other hand there is a growing tendency to accept a modification of Buffon's explanation of the origin of cell structure. Buffon attributed the regularity of the cells to mutual pressure; in illustration whereof he packed a closed vessel with dried peas and filled up the interstices with water. The peas, which were thus caused to swell, assumed, under the pressure which resulted, the form of more or less accurate geometrical figures.

Perhaps a still better illustration of this principle of mutual inter-action is seen in soap-bubbles. If a little soapy water is placed in the bottom of a tumbler and air be blown into the water through a tube until the upper part of the glass is full of bubbles, the hexagonal which these bubbles assume under mutual pressure, and the triangular pyramids at their bases, will be readily seen. Not that these geometrical figures are the same as those which the wax assumes, but they illustrate the principle. For, at the temperature of the hives, the wax, pared thin by the smooth, edged jaws of the workers, has all the plasticity of a fluid membrane. The bee has indeed to avoid the paring away too far, and thus making a hole through the wall. But even here it may be aided by mechanical conditions.

If we take a thin piece of soap and pare away one face with the blade of a pocket knife, we shall soon form a transparent patch where the soap is very thin. But if we continue to pare we do not cut through the soap at this point; but for a time at least, we merely enlarge the area of the transparent patch. The thin film of soap yields at this point, and the stress of the blade falls on thicker and less yielding edges. Some such mechanical yielding of the wax may guide the bee in its work.

Bottom Boards.

Each hive should have a good bottom board, which should be planed smoothly and painted. It is very important to have hives sitting close to the ground, and if they get leave to settle it will not be long until they will be resting on the ground, and if left long this way the bottom will rot. Hence they should not be allowed to touch the ground. A bottom board should be cleated at each end with some square stuff that will prevent it from capping. Bottoms to chaff hives are much more liable to become defective by resting on the ground, and it results in quite a loss. The bottoms become drawn and mice are sure to enter. Tarrad paper makes a good lining for the bottoms, to prevent mice from entering. It will also prevent dampness from reaching the packing. Hives should always be at least two inches above the ground, and if they are found to have settled they should be raised. The best thing we can find is bricks for placing under the

CHICAGO.

THE JAMES H. CAMPBELL CO.

Live Stock Commission Merchants,

FOR THE SALE OF CATTLE, HOGS AND SHEEP.

Rooms 23 and 24, Exchange Building, }
KANSAS CITY STOCK YARDS.

Unequaled facilities for handling consignments of stock in either of the above cities. Correspondence invited. Market reports furnished free. Refer to Publishers KANSAS FARMER.

corners. The bricks may be broken in two, or half bricks may be had without cost. It is much better to make an embankment of sawdust or gravel and level it off nicely than to set the hives on this. They will preserve much longer, and this covering will keep down grass and weeds and look neat and tidy. —*Stockman.*

Silos filled with field corn in August and September are not usually opened till October or November, or from six to ten weeks after filling. The ensilage is not considered in best condition for feeding till the heat and active fermentation has subsided, in other words till the mass has become cool or cold.

The harsh, drastic purgatives, once deemed so indispensable, have given place to milder and more skillfully prepared laxatives; hence the great and growing demand for Ayer's Pills. Physicians everywhere recommend them for costiveness, indigestion and liver complaints.

ST. JACOBS OIL

For Horses and Cattle.

Recent, Prompt, Good Results.

Swellings. Neponset, Ill., May 21, 1888.
My mare caught cold; result: swelled limbs; jump between fore-legs and inflammation. Cured her with St. Jacobs Oil. L. O. GARDNER.
The Arms Palace and Stock Car Co.,
The Best. St. Clair Bldg., Toledo, O., June, '88.
We cheerfully recommend St. Jacobs Oil as the best for general use on stock. H. ARMS & CO.
For 10 Months. Winsboro, Texas, June 20, '88.
My horse was hurt on hind leg; suffered 10 months; was cured by St. Jacobs Oil; has remained permanent. W. J. CLINE.

AT DRUGGISTS AND DEALERS.
THE CHARLES A. VOGELER CO., Baltimore, Md.

Tutt's Pills

CURE

Malaria, Dumb Chills, Fever and Ague, Wind Colic, Bilious Attacks.

They produce regular, natural evacuations, never gripe or interfere with daily business. As a family medicine, they should be in every household.

SOLD EVERYWHERE.

Ohio Improved Chesters
WARRANTED CHOLERA PROOF.
EXPRESS PREPAID. WINS 1st PRIZES IN U. S. & FOREIGN COUNTIES. 2 WEIGHED 2800 LBS.
SEND FOR DESCRIPTION AND PRICE OF THESE FAMOUS HOGS, ALSO FOWLS.
L. B. SILVER CO. CLEVELAND, O.
(This Company sold 973 head for breeding purposes in 1887. Send for facts and mention this paper.)

Walnut Grove Herd of Poland-Chinas.

Pigs from three first-class boars for sale. Am taking orders for fall pigs, to be delivered at from eight to ten weeks old, at \$8 per head, or in pairs \$15. Sows in pig or with litters, for sale. A few choice males on hand. My stock is of the best strains in America. Inspection desired. Stock recorded in Ohio Poland-China Record. Pigs from twelve exceeding fine sows. Took six first and two second premiums at Topeka and Ottawa, only places shown, including grand sweepstakes at Ottawa. V. B. HOWEY, Box 103, Topeka, Kas.

THE GOLDEN BELT HERD OF Thoroughbred Poland-Chinas

One hundred and fifty choice Spring Pigs now ready to ship, at prices lower than ever. Order now, and secure selections from either sex, or pairs, trios, or small herds, not akin. Stock shipped from here over either the A., T. & S. P. Mo. Pacific or St. Louis & San Francisco R. R. All breeders registered in American P.-C. Record. Pedigree with each sale. F. W. TRUEDELL, Lyons, Kas.

KANSAS CITY.

F. M. LAIL, MARSHALL, Mo.,

Breeder of the very best
POLAND-CHINA
HOGS.
Pigs from ten first-class boars for the season's trade.

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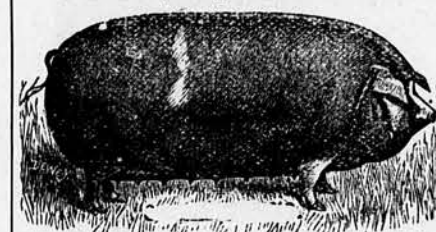
MARYVILLE, MO.,
Breeder of Poland-China Swine of the most fashionable strains, has for sale a choice lot of boars and sows. Young stock not akin for sale. A few choice sows bred to Bravo C. 567 S. R. or Gold Dust 11980 S. R. for sale. Correspondence solicited. Personal inspection invited. Special rates by express.

OTTAWA HERD

OF POLAND-CHINA and DUROC-JERSEY Hogs. Twenty head of first-class boars from four to nine months old. Also seventy-five head of sows of same age, sired by Bruce 4695, C. R., Leek's Gilt Edge 2887, C. R., Whipple's Stemwinder 4701, Daisy's Corwin 4697. Dams—Mazy 2d 6214, Zeida 3d 8250, Maggie's Perfection 8210, Vone's Perfection 9424, Fay's Gold Drop 11676, Jay's Dimple 12172, Eureka Mayo 12176, and many other equally as well bred, and fine as can be produced by any one. Part of sows bred to gilt-edge boars of the most popular strains. Will sell at prices to suit the times. Never had any cholera in the herd. Write for prices. I. L. WHIPPLE, Box 270, Ottawa, Kas.

JACKVILLE HERD OF POLAND-CHINAS

J. S. RISK, Prop'r, WESTON, MO.



I have 100 Pigs for sale, sired by such noted boars as Gov. Cleveland 4529, Royalty 6469, John 690, King Klever 2d 1309, and other equally noted sires. I can supply very choice pigs. Write for prices or call and see stock.

MAINS' HERD OF POLAND-CHINAS.



Jas. Mains, Oskaloosa, (Jefferson Co.), Kas., is located two and a half miles southeast of Oskaloosa, on Maple Hill Stock Farm. All hogs eligible to Ohio Poland-China Record. A fine lot of spring pigs now ready, for sale at prices that will suit the times. Also some fall sows now ready to breed or will be bred if desired. Personal inspection solicited.

Gold Dust Herd of Poland-Chinas.



J. M. McKEE, WELLINGTON, KANSAS.

Tom Corwin 3d 5293 A. P. C. R. at head of herd. Strains representing Model, Give or Take, Gold Dust, Black Bess and Black Beauty. Have some choice male pigs for sale. Also eggs of P. Rock, Brown Leghorn and Light Brahmas, \$1.25 per 13; Toulouse Geese, 15c.; Pekin Duck 10c. each. Write; no catalogue.

SELECT HERD OF LARGE BERKSHIRES

Owned by G. W. BERRY, Berryton, Shawnee Co., Kas. My sows represent the Royal Duchess, Sallie, Hillside Belle, Charmer, Stumpy, Fashion, Queen Betsy, and other families of fine, large fleshy qualities. Herd headed by British Champion III 13481, Dauntless 17417, and the noted young show boar Peerless. Berryton is located nine miles southeast of Topeka, on the K., N. & D. R. R. Farm adjoins station. Come and see me and all my hogs at home, or address as above.

ST. LOUIS.



ROYAL GRANITE 10105.

BERKSHIRE PIGS

Of Best English and American-bred Families.

Write for now Catalogue of breeding stock.
SPRINGER BROS., Springfield, Ill.

ROME PARK HERDS

T. A. HUBBARD,
Wellington, Sumner Co., Kansas,
Breeder of

POLAND-CHINA and LARGE ENGLISH BERKSHIRE HOGS.

My herds are composed of the richest blood in the United States, with style and individual merit, representing such families as Corwines, U. S., Black Bess, I. X. L., Sallies, Dukes, Duchesses, Belladonnas, Hoods, Champions, etc. Show pigs a specialty. Am using twelve show boars on a bunch of sows that are pleasing to the eye of a breeder. Sows bred to my sweepstakes boars for sale. Come and see or write for prices.

The Echo Herd.



For Registered Prize-winning
BERKSHIRE SWINE AND SOUTHDOWN SHEEP
or money refunded. Come and see or address
J. M. & F. A. SCOTT,
Huntsville, Randolph Co., Mo.
Mention Kansas Farmer.]

ENGLISH BERKSHIRES.



THE WELLINGTON HERD consists of twenty matured brood sows of the best families of home-bred and imported stock, headed by the celebrated HOPEFUL JOE 4889, and has no superior in size and quality nor in strain of Berkshire blood. Also Plymouth Rock Chickens. Your patronage solicited. Write. [Mention this paper.]

M. B. KEAGY, Wellington, Kas.

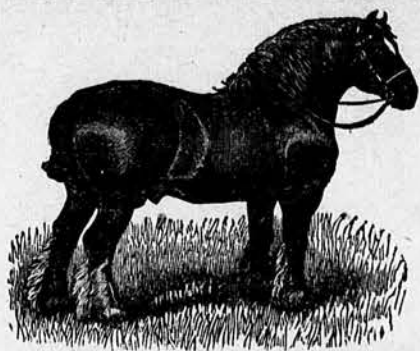
PLEASANT VALLEY HERD OF Pure-bred Berkshire Swine.



I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, headed by the splendid prize-winner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for pigs of either sex not akin, or for matured animals. Prices reasonable. Satisfaction guaranteed. Send for catalogue and price list, free. S. McCULLOUGH, Ottawa, Kansas.

TANSY PILLS!

Safe and Sure. Send 4c. for "WOMAN'S SAFE GUARD," Wilcox Specific Co., Phila., Pa.



HIGHLAND STOCK FARM

RIX & GOODENOUGH,
TOPEKA, KANSAS,

Importers and Breeders of English Shire, Clydesdale, Percheron and Cleveland Bay Horses.

Our horses are selected by a member of the firm from the most noted breeding districts of Europe. The lot now on hand have won fifty-four prizes in the old country, which is a guaranty of their superior qualities and soundness. Every animal recorded, with pedigree, in the recognized stud books of Europe and America and guaranteed breeders. Terms, prices and horses that induce people to buy of us. Write for Illustrated Catalogue.

Farm and stables four miles southeast of city.

IMPORTERS AND BREEDERS OF ENGLISH SHIRE AND SUFFOLK PUNCH HORSES



STERLING.
4713.

RED POLLED CATTLE.

We have on hand a very choice collection, including a recent importation of horses, several of which have won many prizes in England, which is a special guarantee of their soundness and superiority of form and action. Our stock is selected with great care by G. M. SEXTON, Auctioneer to the Shire Horse Society of England. Prices low and terms easy. Send for catalogues to



Peter Puffer (717).

SEXTON, WARREN & OFFORD, Maple Hill, Kansas.

E. Bennett & Son,

TOPEKA, - KANSAS,

The Leading Western Importers of

CLYDESDALE,
PERCHERON,
CLEVELAND BAY

French Coach Horses.

AN IMPORTATION OF 125 HEAD,

Selected by a member of the firm, just received.

Terms to Suit Purchasers. Send for illustrated catalogue. Stables in town.

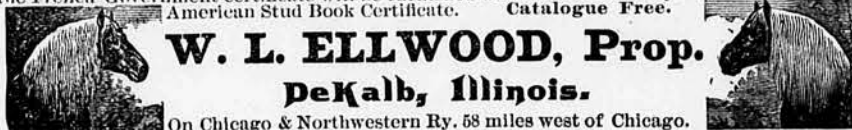
E. BENNETT & SON.



ELLWOOD'S PERCHERONS

And French Coach Horses.

Over FOUR HUNDRED imported STALLIONS ready for service actually ON HAND, embracing all the leading Prize Winners at both the Percheron and French Coach Fairs of France, for 1888. We challenge the world to a comparison as to number, quality, price and terms. An investigation will demonstrate that we are prepared to maintain our present leading position in the trade. We have not only the largest importing establishment, but the largest Breeding Establishment in the United States, embracing 4,000 acres of well improved land, upon which is constantly kept from one to two hundred imported mares selected from the choicest strains. FRENCH COACHES—Owing to the extraordinary demand for this popular breed of Coach Horses, our importation for 1888 consists of double the number brought out by any other individual or firm, all of which are the produce of Government stallions for which the French Government certificate will be furnished with each and every horse, and also the American Stud Book Certificate. Catalogue Free.



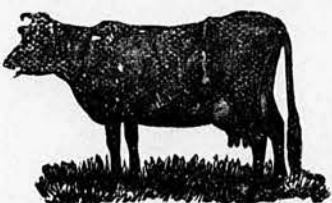
W. L. ELLWOOD, Prop.
DeKalb, Illinois.

On Chicago & Northwestern Ry. 58 miles west of Chicago.

LINWOOD SHORT-HORNS

W. A. HARRIS, PROP'R, LINWOOD, LEAVENWORTH Co., Kas.

Substance, flesh, early maturity and good feeding quality the objects sought. The largest herd of Scotch Short-horns in the West, consisting of Cruickshank Victorias, Lavenders, Vilets, Secrets, Brawith Buds, Kinellar Golden Drops, etc., headed by Imp. Baron Victor 42824, a prize-winner and sire of prize-winners. LINWOOD—Is twenty-seven miles from Kansas City, on Kansas Division Union Pacific R. R. Farm joins station. Inspection invited. Catalogue on application.



Home of HASSELMAN'S BROWNIE 28777.
Tested on Island of Jersey at rate of 83 pounds 12 ounces in seven days.

A. J. C. C. JERSEY CATTLE,

Offer a few choice-bred Bull Calves by such noted sires as the St. Lambert Duke 76 bull, ST. VALENTINE'S DAY 15278, whose sire was a son of Stoke Pogis 3d 2238, and a grandson of Victor Hugo 197; dam a daughter of the great prize bull, Duke P. 76 C.; and the in-bred Coomassie bull, HAPPY GOLD COAST 14713.

Several of these Bulls are old enough for service, and are out of tested cows. To responsible parties, will give time or exchange for cows or heifers.

SHERWOOD & ROHRER, WICHITA, KANSAS.

HANCOCK COUNTY IMPORTING COMPANY,

WARSAW, ILLINOIS,

IMPORTERS AND BREEDERS OF

Percheron and English Shire HORSES.



We have a choice collection of Registered Horses on hand, from two to five years old, unsurpassed for quality and breeding. Our importation this year numbers thirty head, making in all fifty head, which we now offer to the trade. We have a large lot of two and three-year-old stallions, imported last year, which are now fully acclimated. Customers will find it to their interest to call and examine our stock before purchasing. Prices low. Terms to suit.

WARSAW is four miles south of Keokuk and forty miles south of Burlington, Iowa.

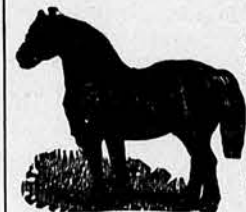
We Stand at the Head



CLEVELAND BAYS.

At the great American Horse Show, held in Chicago, November 18-24, 1888, we were awarded Grand sweepstakes gold medal for best Cleveland Bay stallion and silver medal for best mare of any age, thus placing our stud on top. We have also a grand lot of ENGLISH SHIRE stallions and mares on hand. Every animal recorded and guaranteed. Lowest prices. Best terms. Farm one-quarter mile east of city. Write for new illustrated catalogue to STERICKER BROS., Springfield, Ill.

Royal Belgians.

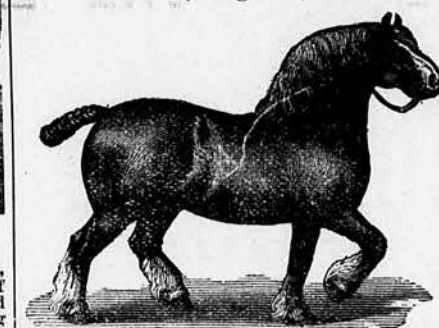


We imported forty-one head this season; their ages run from 1 to 6 years; average weight 1,750, 1,900 to 2,300 pounds at 4 and 6 years old; mostly bays, browns and blacks. Took forty-seven prizes, mostly first Governments of Belgian Concourse and Breeding Society. Every stallion guaranteed an average foal getter, successful breeder, and strictly pure-bred. The Belgian has more power and endurance, and is more easily kept and broken than other breeds, and always brings the top price. All horses recorded in the Government Stud Book. We can show more prize-winners and a better lot of horses than can be found in this State. Terms:—One-third or one-half cash; balance in one or two years. Send for illustrated catalogue.

MASSION & SON, Minonk, Ill.

TOWHEAD STOCK FARM

LEONARD HEISEL,
Carbondale, Osage Co., Kansas.



Importer and breeder of Clydesdale and Percheron Horses. I have a choice collection of registered horses on hand from 2 to 5 years old, unsurpassed for quality and breeding, every animal recorded with pedigree in the recognized stud book of Europe and America and guaranteed breeders. Terms, prices and horses that induce people to buy of me. Write for illustrated catalogue. Carbondale is eighteen miles south of Topeka, on A. T. & S. F. R. R. Farm and stable three miles northwest of Carbondale.

MORGAN HORSES Western Headquarters for Stallions of high breeding, and Grade Fillies.
Dr. A. W. HINMAN, Dundee, Ill.

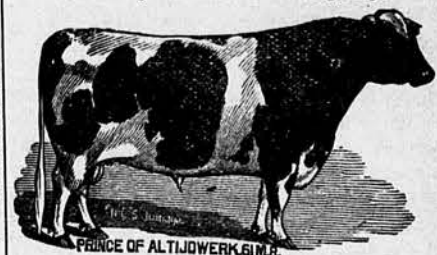
Holstein - Friesian Cattle.

I have a choice herd of these justly-celebrated cattle of all ages. Also some nice grades, for sale at reasonable prices. Personal inspection invited. Call on or address

JNO. D. PRYOR,
Winfield, Cowley Co., Kas.

Holstein - Friesian Cattle

Of European Herd Book Registry.



The sweepstakes bull PRINCE OF ALTIJDWERK (61 M. B.) at head of herd, has no superior. Cows and heifers in this herd with weekly butter records from 14 pounds to 19 pounds 10½ ounces; milk records, 50 to 90 pounds daily. The sweepstakes herd. Write for catalogue. M. E. MOORE, Cameron, Mo.
(Mention this paper.)

THE PIONEER LINE.



The Short and Popular Line Between

ST. JOSEPH and

Sabetha, Seneca, Fairbury, Edgar, Hastings, Alma, Grand Island, Fairmount, York, Sutton, Minden, Wilcox.

TWO EXPRESS TRAINS EACH WAY DAILY

On the Main Line.

FREE RECLINING CHAIR CARS

On Day Trains.

NEW PULLMAN PALACE SLEEPERS

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Two Express Trains each way between Fairbury and McCool Junction. One Through Train each way between Alma, Wilcox, Minden, Fairfield, Sutton, York, Davis City and Lincoln.

Close connection at Valparaiso with Union Pacific train for Omaha, Council Bluffs, and points North and East.

Connections made at Grand Island with the Union Pacific Railway for all Western Points. Close Union Depot connections made at St. Joseph for all points North, East and South.

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MISSOURI PACIFIC RAILWAY.

DIRECT LINE TO

KANSAS CITY, ATCHISON, ST. JOSEPH, OMAHA and the NORTH. SEDALIA, HANNIBAL, ST. LOUIS and all points EAST. DALLAS, FT. WORTH, AUSTIN, SAN ANTONIO, HOUSTON, GALVESTON, and all principal CITIES in TEXAS and the SOUTH-WEST. PUEBLO, DENVER and the WEST.

Solid Daily Trains with Pullman Buffet Sleeping Cars between Kansas City, Pueblo and Denver via the

COLORADO SHORT LINE

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KANSAS CITY TO ST. LOUIS.

H. O. TOWNSEND,

General Passenger and Ticket Agent, ST. LOUIS, MO.



800 CHOLERA—Cause, Cure and Prevention. Free. Colours & Testimonials Free. For sale by Druggists, Grocers, etc.

THE STRAY LIST.

HOW TO POST A STRAY.

THE FINE, FINE AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1884, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the Kansas Farmer, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the Farmer in three successive issues of the paper. It is made the duty of the proprietors of the Kansas Farmer to send the paper, free of cost, to every County Clerk in the State, to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the Farmer for a violation of this law.

Broken animals can be taken up at any time in the year.

Unbroken animals can only be taken up between the first day of November and the first day of April, except when found in the lawful enclosure of the taker-up.

No persons, except citizens and householders, can take up a stray.

If an animal liable to be taken up, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

Any person taking up a stray, must immediately advertise the same by posting three written notices in as many places in the township giving a correct description of such stray, and he must at the same time deliver a copy of said notice to the County Clerk of his county, who shall post the same on a bill-board in his office thirty days.

If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered, also he shall give a full description of the same and its cash value. He shall also give a bond to the State of double the value of such stray.

The Justice of the Peace shall within twenty days from the time such stray was taken up (ten days after posting), make out and return to the County Clerk, a certified copy of the description and value of such stray.

If such stray shall be valued at more than ten dollars, it shall be advertised in the Kansas Farmer in three successive numbers.

The owner of any stray may, within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the county, having first notified the taker-up of the time when, and the Justice before whom proof will be offered. The stray shall be delivered to the owner, on the order of the Justice, and upon the payment of all charges and costs.

If the owner of a stray fails to prove ownership within twelve months after the time of taking, a complete title shall vest in the taker-up.

At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise such stray, summons to be served by the taker-up; said appraisers, or two of them, shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

They shall also determine the cost of keeping, and the benefits the taker-up may have had, and report the same on their appraisal.

In all cases where the title vests in the taker-up, he shall pay into the County Treasury, deducting all costs of taking up, posting and taking care of the stray, one-half of the remainder of the value of such stray.

Any person who shall sell or dispose of a stray, or take the same out of the State before the title shall have vested in him, shall be guilty of a misdemeanor and shall forfeit double the value of such stray and be subject to a fine of twenty dollars.

FOR WEEK ENDING NOV'R 29, 1888.

Leavenworth county—J. W. Niehaus, clerk.

MARE—Taken up by R. F. Hill, in Tonganoxie tp., October 14, 1888, one bay mare, about 15 hands high, 7 or 8 years old, collar marks on neck; valued at \$40.

Bourbon county—J. R. Smith, clerk.

PONY—Taken up by A. D. Fairman, in Osage tp., November 12, 1888, one bay pony filly, supposed to be 2 years old past, no marks or brands visible; valued at \$20.

Sedgwick county—S. Dunkin, clerk.

MULE—Taken up by C. R. Miller, three and a half miles northwest of Wichita, October 18, 1888, one dark brown mare mule, about 6 years old, brand similar to R on the left hip and white spot on top of neck caused by collar.

Ottawa county—W. W. Walker, clerk.

2 COWS—Taken up by Thomas Smith, in Ottawa tp., November 9, 1888, two cows, one dark red, about 4 years old, and one white cow, about 4 years old.

Lyon county—Roland Lakin, clerk.

MARE—Taken up by Jas. Kibby, in Fremont tp., November 14, 1888, one brown mare, 10 years old, blind; valued at \$15.

HORSE—By same, one sorrel horse, white strip in face, white hind legs; valued at \$15.

STEER—Taken up by Ernest Avery, in Americus tp., November 12, 1888, one red yearling steer, a little white on belly; white hairs in forehead, branded S on right hip; valued at \$11.

STEER—By same, one red yearling steer, white on belly, on forehead and hind legs, branded S on right hip; valued at \$11.

HEIFER—Taken up by Joe Belman, in Elmendorf tp., November 2, 1888, one red yearling heifer, branded C on right hip, under half-crop off right ear, and over half-crop off left ear, white spot in face and some white on belly; valued at \$11.

Coffey county—H. B. Cheney, clerk.

MARE—Taken up by L. D. Carmean, one brown mare, 3 years old past, both hind feet white; valued at \$40.

MARE—By same, one brown mare, 3 years old past, no marks or brands; valued at \$30.

HEIFER—Taken up by L. L. Brown, in Pleasant tp., one white heifer with red neck, 3 years old, under-bit in left ear; valued at \$15.

COW—Taken up by Sarah F. Mills, in Liberty tp., one cow, red and white spotted cow, 3 years old, figure 3 on right hip; calf, about 4 months old; valued at \$15.

Chase county—J. S. Stanley, clerk.

HEIFER—Taken up by W. H. Cox, in Bazar tp., (P. O. Matfield Green), November 23, 1888, one light red and white yearling heifer, no marks or brands; valued at \$12.

HEIFER—By same, one roan yearling heifer, branded H on right hip; valued at \$10.

HEIFER—By same, one 2-year-old heifer, dark red with some white, no brands; valued at \$14.

STEER—Taken up by Andrew Drummond, in Diamond Creek tp., November 12, 1888, one red 2-year-old

steer, branded TU on right hip, under-bit in right ear, white on end of tail.

HEIFER—By same, one red 2-year-old heifer, white on end of tail, under-bit in right ear.

Wabaunsee county—G. W. French, clerk.

STEER—Taken up by W. H. Karon, (P. O. Paxico), November 12, 1888, one roan and white spotted 2-year-old steer, blurred brand on right hip; valued at \$18.

STEER—Taken up by E. J. Dalley, in Mission Creek tp., (P. O. Eskridge), one 2-year-old steer, blind in left eye, a little white on belly, branded C on right hip; valued at \$25.

COLT—Taken up by J. M. McFarland, in Alma tp., one dark bay horse colt, 3 years old, white dot in forehead, no brands; valued at \$35.

Nemaha county—W. E. Young, clerk.

HEIFER—Taken up by George A. Allen, in Wetmore tp., (P. O. Ontario), November 11, 1888, one red and white spotted 2-year-old heifer, silt in left ear; valued at \$16.

Greeley county—J. U. Brown, clerk.

COW—Taken up by Harrison Oliver, in Colony tp., July 19, 1888, one red cow, 7 years old, branded with triangle with O in center; valued at \$10.

HEIFER—By same, one red 2-year-old heifer, F and horseshoe on left hip; valued at \$9.

STEER—By same, one roan 2-year-old steer, F and horseshoe on left hip; valued at \$8.

STEER—By same, one red 2-year-old steer, F and horseshoe on left hip; valued at \$7.

MARE—Taken up by W. Z. Lindley, in Harrison tp., September 20, 1888, one dark brown mare, 13 hands high, small star in forehead, collar marks; valued at \$25.

HORSE—Taken up by J. R. Benedict, in Tribune tp., July 29, 1888, one white horse, branded 77 on left hip; valued at \$40.

Chautauque county—W. F. Wade, clerk.

COW AND CALF—Taken up by G. W. Layton, in Harrison tp., November 5, 1888, one red cow, crop and silt in left ear and half under-crop in right ear, about 7 years old; calf by her side; valued at \$15.

Anderson county—S. Durall, clerk.

STEER—Taken up by Howard Hester, in Lone Elm tp., (P. O. Colony), one pale red steer, 2 years old, white in forehead; valued at \$17.

STEER—By same, one pale red steer, 2 years old, white in forehead and on side; valued at \$17.

HEIFER—Taken up by Joseph Depoe, in Lone Elm tp., (P. O. Colony), one dark red heifer, white spots on back and sides, 2 years old; valued at \$15.

STEER—Taken up by M. E. Osborn, in Lincoln tp., one red and white yearling steer, silt in point of each ear; valued at \$14.

STEER—Taken up by Geo. Fatten, in Monroe tp., (P. O. Garnett), one red yearling steer, white spot in forehead and on flank, no marks or brands; valued at \$13.

COW—Taken up by A. Brubaker, in Reeder tp., (P. O. Harris), one red and white spotted cow, 5 or 6 years old, no marks or brands; valued at \$20.

STEER—By same, one red and white spotted steer, no marks or brands; valued at \$10.

FILLY—Taken up by Frank Foy, in Reeder tp., (P. O. Harris), one light sorrel filly, 3 years old, light-colored feet, hind parts high, no marks or brands; valued at \$20.

COW—Taken up by S. S. Herriman, in Jackson tp., one white cow, r and head and neck, branded H on left hip, both ears cropped, about 8 years old; valued at \$12.

COW—Taken up by W. F. James, in Jackson tp., (P. O. Greenleaf), one pale red cow, short horns, branded H on left hip, white belly and white tail; valued at \$12.

Shawnee county—D. N. Burdge, clerk.

COW—Taken up by James Henry, in Silver Lake tp., November 18, 1888, one red cow, some white on end of tail, 9 years old, F on left hip; valued at \$10.

COW—Taken up by Ephraim Deltrich, in Menoken tp., November 19, 1888, one roan cow, 6 years old, no marks or brands; valued at \$10.

Wyandotte county—Frank Mapes, clerk.

COW—Taken up by W. J. Reams, in Delaware tp., one red cow, 6 years old, 4 feet high, crop and silt in right ear and two under-bits in left ear.

MARE—Taken up by Thomas Brown, in Shawnee tp., one bay mare, shod all around.

Linn county—Thomas D. Cottle, clerk.

STEER—Taken up by E. F. Barnes, in Mound City tp., November 10, 1888, one small red 2-year-old steer white stripe in face, branded on left hip; valued at \$18.

FOR WEEK ENDING DEC'R 6, 1888.

Coffey county—H. B. Cheney, clerk.

STEER—Taken up by L. H. Draper, in Spring Creek tp., one red and white speckled steer, 1 year old; valued at \$15.

COW—Taken up by G. F. Reinhardt, in Hampden tp., one white cow, 3 years old, branded W. H. on left hip; white calf; valued at \$18.

STEER—Taken up by M. A. Reed, in Liberty tp., one light roan 2-year-old steer, branded C on left shoulder; valued at \$20.

Osage county—R. H. McClair, clerk.

STEER—Taken up by David J. Davis, in Burlington tp., November 19, 1888, one red 1-year-old steer, white spot in forehead shape of a heart, white on each shoulder-blade, piece out of right ear; valued at \$14.50.

COLT—Taken up by Wm. Culver, in Fairfax tp., November 3, 1888, one brown or black-gray 1-year-old colt, black legs, small body and leggy; valued at \$25.

HEIFER—Taken up by Sylvester Campuelli, in Oil-vet tp., November 10, 1888, one red 1-year-old steer, white spot in forehead; valued at \$12.

HEIFER—By same, one red 2-year-old heifer, white spot in forehead; valued at \$12.

HEIFER—By same, one red and white spotted 1-year-old steer; valued at \$6.

Nemaha county—W. E. Young, clerk.

COW—Taken up by W. H. Leighty, in Wetmore tp., November 15, 1888, one light roan cow, 6 or 7 years old, brand on left hip, both horns drooped, a little off point of left horn; valued at \$15.

COW—Taken up by Hugh Ross, in Illinois tp., November 14, 1888, one red cow, about 10 years old; valued at \$10.

STEER—Taken up by L. E. Ellis, in Illinois tp., November 10, 1888, one dark red 1-year-old steer, small white spot on left shoulder and one on left hip, one on right side and one in face; valued at \$10.

HEIFER—Taken up by F. A. Stickle, in Illinois tp., November 10, 1888, one light red 1-year-old heifer, white hind feet, no marks or brands visible; valued at \$10.

Johnson county—W. M. Adams, clerk.

HORSE—Taken up by J. Stephenson, in Gardner tp., November 18, 1888, one sorrel horse, 15½ hands high, 15 years old, blind in right eye; valued at \$15.

Crawford county—J. C. Gove, clerk.

FILLY—Taken up by W. A. Cole, Mulberry Grove, November 5, 1888, one gray-roan filly, star in face, little white on left hind foot, dark mane and tail; valued at \$30.

Lyon county—Roland Lakin, clerk.

STEER—Taken up by Wm. F. Kurzen, in Fremont tp., November 1, 1888, one white yearling steer, medium size, under-bit in right ear, no other marks or brands visible; valued at \$15.

STEER—Taken up by W. B. Vandivort, in Agnes City tp., November 2, 1888, one 3-year-old red-roan steer, white face and line-back, indistinctishable brand on left hip; valued at \$30.

STEER—Taken up by John Slesher, in Jackson tp.,

November 28, 1888, one 3-year-old red steer, branded H on right hip; valued at \$25.

Cowley county—S. J. Smock, clerk.

HEIFER—Taken up by Wm. Beckman, in Richland tp., October 20, 1888, one dark red heifer with white stripe between the fore legs.

Franklin county—T. F. Ankeny, clerk.

STEER—Taken up by Joseph Rubick, in Homewood tp., November 16, 1888, one small red 2-year-old steer, branded S on right hip; valued at \$40.

Butler county—T. O. Castle, clerk.

STEER—Taken up by J. F. Smith, in Rosalia tp., October 22, 1888, one red long yearling or short 2-year-old steer, no marks or brands.

Atchison county—Chas. H. Krebs, clerk.

COW—Taken up by S. E. Hood, in Benton tp., October 7, 1888, one pale red cow with white spots, cloth with No. 53 painted on it pasted on right hip, 6 years old; valued at \$13.

COW—Taken up by John B. Terry, in Grasshopper tp., October 16, 1888, one dark red cow, branded V on left side, right ear cropped, hole in left ear, right horn broken off, 7 years old; valued at \$17.

Montgomery county—G. W. Fulmer, clerk.

STEER—Taken up by L. Glatfelder, in Caney tp., one white and red 2-year-old steer, branded O on left side, right ear cropped close to head; valued at \$8.

HEIFER—By same, one 2-year-old dun heifer, three white spots across back, branded 5 on left hip; valued at \$10.

CALF—By same, one dun calf, crop and two silt in right ear, crop and silt in left ear; valued at \$3.

MARE—Taken up by E. M. Prichard, in Caney tp., October 27, 1888, one brown mare, 2 years old, white spot in forehead, dim brand on left shoulder; valued at \$20.

COLT—By same, one bay horse colt, 1 year old; valued at \$15.

Wabaunsee county—G. W. French, clerk.

STEER—Taken up by Wm. Maas, in Washington tp., one roan steer, 3 years old; valued at \$22.

COW—Taken up by Peter Thoes, in Farmer tp., one light roan cow, about 5 years old, right horn off, dim brand on left hip.

Sherman county—O. H. Smith, clerk.

HORSE—Taken up by D. C. King, (P. O. Topland), October 23, 1888, one gray horse, 16 hands high, collar marks; valued at \$25.

Jackson county—E. E. Birkett, clerk.

STEER—Taken up by M. E. Mulanax, in Cedar tp., November 1, 1888, one red 8-year-old steer, some white in forehead, flanks and on belly, no marks or brands visible; valued at \$22.

FOR WEEK ENDING DEC'R 13, 1888.

Miami county—H. A. Floyd, clerk.

6 PIGS—Taken up by A. C. Nichols, in Sugar Creek tp., six white and black spotted pigs; valued at \$12.

Coffey county—H. B. Cheney, clerk.

STEER—Taken up by J. A. Scott, in Lincoln tp., one black steer, 1 year old, no marks or brands; valued at \$12.

Pottawatomie county—L. D. Hart, clerk.

STEER—Taken up by E. E. Sims, in Union tp., November 30, 1888, one red and white 2-year-old steer, square crop off right ear and under-bit in left ear; valued at \$10.

COLT—Taken up by Caloway O'Day, in Emmet tp., November 30, 1888, one brown 2-year-old horse colt; valued at \$35.

Montgomery county—G. W. Fulmer, clerk.

HEIFER—Taken up by R. L. Mason, in Caney tp., November 29, 1888, one red and white heifer, crop off right ear; valued at \$6.

HEIFER—By same, one red and white heifer, crop off right ear; valued at \$6.

Neosho county—T. B. Limbocker, clerk.

STEER—Taken up by T. D. Barnett, (P. O. Stark), one 2-year-old red-roan steer, some white on belly; valued at \$18.

Johnson county—W. M. Adams, clerk.

COW—Taken up by John Marty, in Shawnee tp., November 10, 1888, one red and white cow, about 9 years old; valued at \$12.50.

Dickinson county—M. H. Bert, clerk.

HORSE—Taken up by Fred Klaybaker, in Noble tp., October 9, 1888, one sorrel horse, about 13 hands high, branded H on left shoulder; valued at \$15.

Riley county—O. C. Barner, clerk.

STEER—Taken up by Tate Scott, in Ashland tp., P. O. Manhattan, one roan or red and white speckled yearling steer, half crop off right ear.

STEER—Taken up by Gustav Spohr, one 2-year-old red and white spotted steer, no marks or brands.

Wabaunsee county—G. W. French, clerk.

MARE—Taken up by Christian Knerrtyo, in Mill Creek tp., P. O. Alma, November 10, 1888, one sorrel mare, 7 years old, light mane and tail, no marks or brands; valued at \$50.

Cowley county—S. J. Smock, clerk.

COW—Taken up by Levi Bowker, in Bolton tp., P. O. Arkansas City, November 1, 1888, one brindie cow, brand similar to A-D on left side, O on left hip and A-D on right side.

Greenwood county—J. W. Kenner, clerk.

PONY—Taken up by L. D. Groom, in Janesville tp., November 13, 1888, one bay pony, about 10 or 12 years old, four feet two inches high, blaze face, saddle marks, branded with a four-sided square on left shoulder and an indistinguishable brand similar to a four-pronged rake on left hip.

STEER—Taken up by J. E. Freeman, in Pleasant Grove tp., November 15, 1888, one dark red 3-year-old steer, some white under belly, branded X W on left hip.

STEER—By same, one red and white spotted 3-year-old steer, branded T on left hip.

STEER—Taken up by W. C. Means, in Pleasant Grove tp., November 17, 1888, one deep red steer, white spot in forehead and bush of tail white, 2 years old, branded with q on left hip.

2 STEERS—Taken up by W. C. Dudgeon, in Salt Springs tp., November 21, 1888, two 3-year-old steers, red and white spotted, one of which has a white face, branded with indistinct brand on left side near shoulder.

STEER—Taken up by W. B. Worford, in Janesville tp., November 24, 1888, one red and white 1-year-old steer, end of right ear off, no brand visible.

STEER—Taken up by S. H. Winters, in Janesville tp., November 21, 1888, one red 2-year-old steer, scar brand on right hip.

COW—Taken up by I. T. Gillespie, in Lane tp., November 23, 1888, one roan cow, aged about 6 years; valued at \$15.

Woodson county—R. M. Phillips, clerk.

STEER—Taken up by Chris Herold, in Center tp., November 10, 1888, one red 2-year-old steer, some white spots, branded O. C. on left hip; valued at \$21.

HEIFER—Taken up by Jacob Carroll, in Liberty tp., November 13, 1888, one 2-year-old red heifer, white on belly and flanks, white spot across hips, some white in face, hole in left ear; valued at \$12.

HEIFER—Taken up by A. Rose, in Liberty tp., November 18, 1888, one 2-year-old red heifer, some white on belly, notch out of right ear; valued at \$12.

STEER—Taken up by Andrew Clark, in Owl Creek tp., November 1, 1888, one 1-year-old red and white steer, white spot on rump, both hind feet and one

front foot white, star in forehead and bush of tail white; valued at \$12.

COW AND CALF—Taken up by David Askren, in North tp., November 23, 1888, one white cow and calf, cow marked with under-slope in right ear, speckled roan heifer calf; valued at \$20.

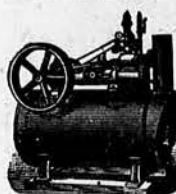
STEER—Taken up by J. C. Culver, in Perry tp., November 9, 1888, one yearling steer, body white, head, neck and lower part of legs red, marked in left ear; valued at \$13.

Chase county—J. S. Stanley, clerk.

HEIFER—Taken up by Geo. W. Yeager, in Bazaar

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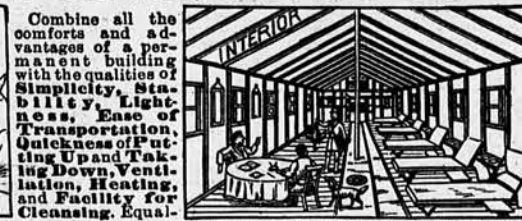
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