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Agricultural Matters.

FARM AND FIELD NOTES.

Fresh water is essential for all classes of stock at this season.

Keep the melon hills clean until the vines run over the ground.

Breed your best mares to the very best stallion you can find.

Don't let any farm tool lie out in the open air when it is not in use.

Great horses, like great men, are often overlooked until their great qualities force the attention of the public.

The continual growing of any crop without returning to the soil the plant food they are taking from it will, sooner or later, exhaust the available supply, at least to the extent of lessening the yield.

It is cheaper and more economical to hoe the corn than to allow grass around the stalks. Even when corn is cultivated in check rows it is sometimes impossible to get all the grass out except by the use of the hoe, especially if the corn is planted on old sod land.

Corn-cribs should not only be rat proof but water-proof. There should also be some protection on the sides, as the openings for the admission of air also admit rain if the winds are high. When corn becomes wet it is injured, and drying it will not then be of advantage.

Never remove large limbs from a tree if you can avoid it. If necessary always cover the wound with some preparation to exclude the air. Downing recommends one quart of alcohol, in which has been dissolved as much green shellac as will make a liquid of the consistency of paint.

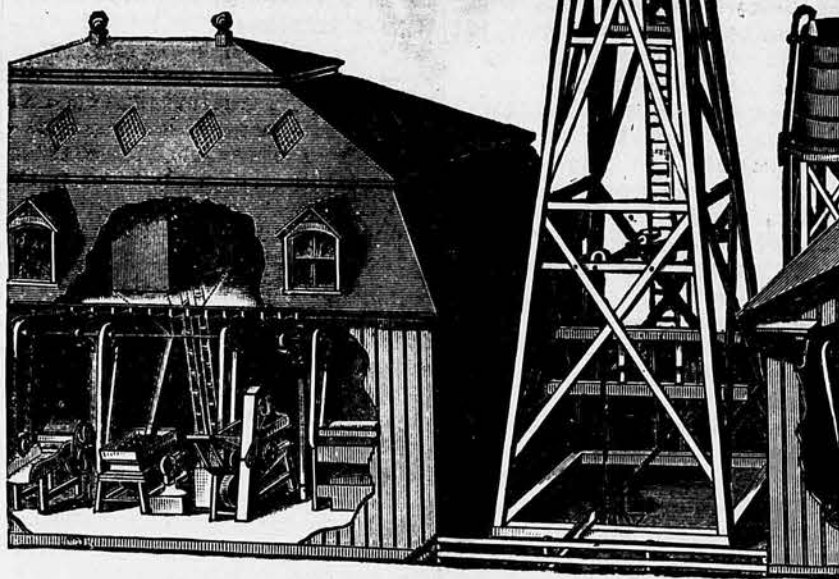
During heavy rains the soluble matter of the manure heap will be carried away. It is the most valuable portion. Have the manure heap over a pit, or dish the ground in the center, so that the liquid will not flow away. The blacker the liquid the greater the loss to the manure when it is carried off.

FARMING--ITS DIGNITY AND IMPORTANCE.

Hon. A. W. Smith, of McPherson county, prepared the following article, and it was first printed in *The Exchange*, of that city.

A long cherished desire of the American farmer is fulfilled, at last. A long-deferred duty was performed when the fiftieth Congress raised the Commissioner of Agriculture to the full rank and dignity of a Cabinet minister, and President Harrison deserves the thanks of the farmers for selecting as the first Secretary of Agriculture the Hon. Jeremiah Rusk, a practical farmer, who from the humble walks of life has by his own energy and worth been raised to a seat in the highest councils of the government. His hard common sense, his practical experience, his dauntless courage, his wise statesmanship, will without a doubt place this new branch of our government on a par with the other departments and will give a new impetus to the agricultural industries of the nation.

It is refreshing to note that the importance



CHALLENGE SINGLE-HEADER GEARED WIND-MILL.

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of agriculture and the fact that farming is a science is being admitted. The old idea that anybody knows enough to farm is a great mistake. It requires as much knowledge, as clear judgment, as good business tact, to be a successful farmer as it does to succeed in any of the other activities of life. Knowledge is the symbol of success, the key that unlocks the coveted treasure.

The farmer is dealing daily with the essentials of life, hence a thorough knowledge of his profession is indispensable. A knowledge of the great economic questions of the day and their effect and bearing upon his industry is a necessity; a knowledge of government is a duty; self-government among the farmers of America is an instinct; and history teaches that where the ownership of the soil is largely distributed, good government is the rule.

It has been truly said that whatever disturbances may threaten the order of society, whatever wild theories transplanted from other climes may seek foothold here, the republic of the United States must rest upon the basis of agriculture where the farmers of the revolution and the framers of the constitution placed it.

The farmer in this country who owns broad acres which he has earned by his own industry and whose title is in his own name, is not apt to have any sympathy with the communistic theory that no one has a right

to ownership in the soil. We are glad to know from personal observation that the man who has the product of his labor in wheat, in corn, in pork, and in beef, is not easily led astray with wild and revolutionary theories.

Our government rests largely upon the shoulders of the farmers. They are responsible for its success and perpetuity. They are the conservative elements in society, and in the end are the guiding, restraining and controlling force in government; against theories of administration that have drenched other lands in blood; against the spirit of anarchy that would sweep away the landmarks and safeguards of our Christian society and republican government; against political murder and ballot-box corruption; against the encroachment of the saloon and other kindred vices, the farmers of America stand and will continue to stand as the shield and buckler, themselves the willing subjects of laws and therefore its safest and strongest administrators. Hence the justice and importance of having a representative in the council of the administration.

The importance of developing every branch and phase of agriculture cannot be overestimated. It is the foundation of all our wealth, prosperity and happiness. It is the foundation on which all other industries rest.

"Agriculture, commerce and manufacto-

ries are the three pursuits that enrich a nation, but the greatest of these is agriculture," for without its products the spindle cannot turn and the ship cannot sail. We honor commerce with its busy marts and the workshop with its patient toil and exhaustless energy, for we have been there; but history teaches that the most heroic champions of human freedom and the most illustrious apostles of its principles have come from the broad field of agriculture. It was at the handles of the plow and amid the breathing of odors of its newly-opening furrows that the character of Cincinnati was formed, expanded and matured. It was amidst fields of waving grain, songs of the reaper and the tinkling of the shepherd's bell that were matured those rare virtues and principles of patriotism and self-sacrifice which clustered star-like in the character of Washington and lifted him in moral stature head and shoulders above even demi-gods of ancient story.

With the new recognition that the agricultural industry has received, does it not imply new responsibilities? Then let it be the patriotic inspiration of every farmer to the extent of his ability to develop the industry and use his opportunities for the good of the entire people.

Usually, when a tree or vine dies from no apparent cause, it may be due to the work of insects or parasites at the roots. At this season of the year it will prove of advantage to dig around the roots of trees and examine them. Always apply air-slaked lime liberally before replacing the earth around the roots.

During warm weather live poultry suffer from thirst when shipped to market in coops. The fowls should never be crowded. Nearly all the coops that come in contain twice as many fowls as they should have, and some of them die on the journey. Plenty of food, with drinking cups at several points of the coop, should be provided.

The farmer who is looking over his cows to find out which are profitable and which should go to the butcher must not forget, says the *Northwestern Agriculturist*, that quality is more of a consideration than quantity in butter cows. One cow which gives twenty-four quarts of milk may be no more valuable than another which gives twelve quarts. The milk of the first may contain twelve quarts of water, which has no food value, more than that of the last, and which is not only worthless, but worse than useless, as it is a waste of labor to milk and set it. Combine good quality with a liberal quantity and credit the cow with the result; charge her with cost of food and care, and you will have a result that will prove whether she is the cow to be kept or not.

Our illustration shows the Challenge Single Geared Wind Mill, for running machinery of all kinds, also for pumping water. The large wheel is the wind or power wheel, the two small ones are the vanes for holding the mill to the wind. Being locked to the wind at all times, as they are, and getting all the available power to be had from the wind, the Challenge Co. are safe in guaranteeing that they get from 25 to 200 per cent. more power than can be got in any other way. We have not space here to enter into a full description of this mill, but a letter of inquiry addressed to the Challenge Wind-Mill and Feed-Mill Co., Batavia, Ill., will receive prompt and careful attention, and full information will be given, not only in reference to this mill, but also to their Double Header Geared Mills, Pumping Mills, Feed Mills, Corn Shellers, etc.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

OCTOBER 8—John Lewis, Short-horns, Miami, Mo.
OCTOBER 9—John Lewis, Poland-Chinas, Miami, Mo.

CHICAGO STOCK YARDS.

Mr. John Clay, Jr., of Chicago, an experienced stockman and clear writer, prepared an article recently on the American cattle trade for the journal of the Royal Agricultural Society of England. Below we give that part of it relating to the Chicago stock yards, as it appeared in *Breeder's Gazette*:

Leaving statistics behind, let us now take up the principal points connected with our cattle markets. It would be impossible of course to treat in detail of the various markets of the United States; Chicago being the center of the live stock trade it will be better to deal exclusively with it. As mentioned previously the Chicago stock yards were organized and opened in 1865. The stock yards company at the present time own 400 acres of land—320 acres in one block and eighty acres in outlying lots. The larger tract is devoted to the stock yards; some 200 acres being devoted to yards, etc., while the balance is occupied by railroad tracks and car sidings. Twenty great trunk railroads, fed by hundreds of branches which stretch like a mighty octopus over the land, deliver and carry away the raw and manufactured articles which arrive at and depart from this spot. During early morning the Western roads are busy unloading their freight of cattle, hogs, and sheep; while in the afternoon the Eastern roads are equally busy taking delivery and loading up the stock that is going to Boston, New York, and countless other points. At the packing houses the work goes on all day—one train following another carrying away the finished product of the butcher and packer.

The stock yards company own all the railroad tracks (over 150 miles in all), and within the last year have done all the switching or shunting connected with the business of the yards. Every railroad company has a direct communication with the yards, either through its own track or by the Belt line; at any rate they can all get there without trouble, and no delays take place. The yards can accommodate at their fullest capacity over 20,000 cattle, 120,000 hogs, and 15,000 sheep; and while at times they are taxed to their fullest limit, yet as a rule the stock is well and carefully looked after. As the trains come rolling in the company take charge of the stock; and its location, name of firm to whom consigned, with description, etc., are detailed in the office of the company. Practically speaking, all stock is consigned to commission men, who at once take charge of it. Sometimes the cattle are left in the pens where they are placed on arrival; but as a rule salesmen have each certain localities in the yards, and endeavor to get all their cattle located in the same place. It may be said, before going further, that the yards are divided into pens. The cattle pens are in divisions, thus: division A, pen 1, or division C, pen 20; while the hog pens are located at the railroad delivery points. Sheep have a separate location for themselves. The cattle pens are of different sizes, holding from one animal up to 300 or 400 head. As a rule local, or what are termed native cattle, come in small lots, generally one to two cars at a time; while range cattle generally come in train loads of twelve to fifteen cars. A carload averages about twenty cattle, weighing 1,200 pounds each, or about 24,000 pounds to the car. The hog and sheep pens are covered in. Hogs weighing 250 pounds each run about seventy head to the car, while sheep are loaded according to weight, as they differ so much in quality. One hundred fair-sized sheep generally make a load. Each pen has a water trough, while in those devoted to cattle and sheep hay

racks are also provided. The cattle pens especially are exceedingly strong, the whole structure being of wood. The floors are of the same material, as it is most suitable to the climate. Alleys well macadamized intersect the yards, so that every pen is easily reached, while at convenient points the weighing scales, the feed store-houses, etc., are placed.

On delivery the stock yards company become responsible to the various railroad companies for the freight and feed that are due for each shipment. In turn the owner, through his commission men, becomes bound for payment to the stock yards company. As it would be impossible to collect the freight as every car comes in, a settlement of freight and feed charges is made twice a week, the commission men being obliged to put up a bond of \$10,000 or £2,000 to secure the amounts that may accumulate. In this way matters run very smoothly. If the owner of the cattle has no bond up he is obliged to pay the amount due before the stock is released; but so perfect is the system that no friction of any kind occurs, and the business in this respect goes on from day to day without any trouble.

Subjoined are the regulations and commissions of the market:

Diseased meats are condemned.
Sales, unless otherwise stated, per 100 pounds live weight.
Dead hogs, 100 pounds and over, ½ cent per pound; less than 100 pounds of no value.
Broken-ribbed and bruised cattle, docked \$5 per head.
Public inspectors dock pregnant sows 40 pounds, and stags (altered boars) 80 pounds each.
Yardage—Cattle, 25 cents; hogs and sheep, 8 cents per head. Feed—corn, \$1 per bushel; timothy hay, \$30; prairie hay, \$20 per ton.
Commissions—Cattle, 50 cents per head; calves and yearlings, \$10 per car; hogs and sheep, single decks \$8; double decks, \$10 per car; public inspection of hogs, 15 cents per car.

The charges for yardage are moderate, but the price charged for feed is out of all proportion to market values, and there is continual complaint upon this latter point.

The stock yards company to a certain degree may be termed a monopoly, but their business is conducted upon a liberal basis, and while they have made immense profits little fault can be found with them. Acting as they do under a State charter, they are subject to the whims, fancies, and depredations of the legislators of Illinois. It is true that monopolies such as these need to be kept in check, but the inside history of some of the legislation, both State and local, connected with the stock yards, reveals as venal a spirit in politics as ever disgraced the annals of any country. There is unfortunately in this country a class of men who think that brains and hard work should not have their reward, and that there should be a division of wealth periodically. This spirit pervades, unfortunately, the very threshold of our parliaments, and the popular demand at the present time seems to lead up to an attack upon the very foundations upon which a successful business is built up. Twenty-five years ago the stock yards company was organized by a small band of men, who, seeing ahead, made a venture which has grown, partly from location, partly from wise handling, into an immense institution. They made the venture, to-day they reap the reward; while thousands of live stock breeders and feeders throughout the country have enjoyed the benefit of coming to a market in which they sell their cattle, hogs, and sheep for cash. The men who built up such a market deserve the credit, and if there is any compensation in nature they should be allowed to make some money for their energy and enterprise.

Four great parties meet, as it were, in communion every day at the yards—the stock yards company, with its array of employees; the owners of stock drifting in from all points of the compass; the commission men, with their corps of clerks and assistants; and lastly, the host of buyers who operate there.

As said above, buying and selling goes on every day except Sunday, while Saturday has come to be looked upon as a sort of settling day for the week.

While, of course, cattle come in at all hours of the day, it is the object of the railroads to land them in the yards from 4 o'clock to 8 in the morning. A very large number of the cattle come out of first hands; but the majority are consigned by dealers, who pick them up in small bunches in the country, except in the case of range cattle, which are practically consigned by the owners. The hog market opens early, and is pretty well over by 10 o'clock. There are scattering sales after that hour, but the majority of the work is finished at the above-mentioned time. The sheep market is confined very much to the morning also; while trading in cattle, as a rule, opens about 9 o'clock and goes on more or less up till 3 p. m., when the whistle blows and business is suspended for the day. When it is considered that for the five active working days of the week we receive about 10,000 cattle a day over and above hogs and sheep the gigantic nature of the business can be estimated; but a man needs to be actually upon the spot to judge, even approximately, of how business is carried on. The stock yards company employ about 1,000 men; there are about 120 commission men, who must also employ about 1,000 assistants; add to this about 300 buyers, and it can well be imagined that from 8 o'clock in the morning till 3 in the afternoon the stock yards present a very active scene. There are, moreover, hundreds of owners who practically become interested spectators of the work as it progresses, while every day a great crowd of sight-seers put in an appearance. The office work is mostly confined to the Exchange Building, where the stock yards company, the commission men, the railroad companies, the buyers, etc., have suitable offices. A substantial bank also occupies a very handsome office in the same building.

As soon as the cattle are delivered to the commission men their work begins. Hay is immediately ordered for the cattle; quantities of course vary, but as a rule prime cattle eat about five pounds each; common cattle seven and one-half pounds; and range cattle get an allowance of ten pounds each. The water is turned into troughs, and if the cattle have been properly handled on the road they take a good fill. Very often cattle have to be sorted and classed, and this, as a rule, is done before the water is turned into the troughs. As in other cattle markets, both at home and abroad, supply and demand regulate to a great extent the price, and when the buyer appears early on the scene it is pretty good evidence of an active market. During last summer, when prices were 30 per cent. above those ruling at present, the buyers would often be out at 7 o'clock in the morning, whereas just now they seldom appear before 9. All cattle are sold by live weight except in the case of milch cows or calves. The purchaser, therefore, has to be a better judge of quality than of quantity, but, as a rule, both the commission men and the purchasers are experts in regard to weight. After a long experience both in British and American cattle markets the writer is decidedly in favor of the system followed in the latter. It is more satisfactory to the owner, better for the commission man, and the buyers seem to approve of the system also. The skill of the seller and buyer is in regard to the quality and not as to weight.

In the decimal system of currency and weights the process of buying and selling is very easy, from a financial point of view. The commission man asks, say, \$4 per 100 pounds, the buyer bids \$3.80 per 100 pounds, and they eventually agree upon \$3.90 per 100 pounds as the price, then the remainder of the work is very simple. Shortly after the terms are agreed upon the cattle are driven to the scale and weighed. Before they are run into the weighing pen, however, they are examined, either by the buyer himself or his agent, to see that there are no broken-ribbed or bruised cattle. Cattle that are severely

bruised are, as a rule, thrown out and sold separately, while animals with broken ribs are docked \$5 per head, as stated above. The weighing scale in general use is known as the "Fairbanks Live Stock Scale," and is an invention that has been of great value to American stockmen. These scales have capacity to weigh 100,000 pounds, which, at 2,000 pounds to the ton, is fifty tons; but, as a rule, they seldom weigh more than 60,000 pounds at a time. By this means an immense number of cattle can be passed over one scale in a day. The weighing beam of the scale is open to the public, and as both the buyer and the seller have access to the room in which it is placed no disputes ever arise as to weights. An official ticket of the weight is issued by an employee of the stock yards, who also superintends the weighing, and by this means all disputes are saved. After the weight has been ascertained the cattle are run off the scale and they become the property of the buyer. The commission man takes possession of the scale ticket and hands it to his book-keeper, who calculates the amount due and collects immediately from the buyer. The large buyers have arrangements with the bank to cash their tickets as they are handed in, and thus all the trouble of writing checks, etc., is saved.

For simplicity and accuracy it would be difficult to improve upon the methods in use at the Chicago stock yards. Long years of experience, added to the natural inventive power of the American, have built up a mechanical system in the yards which it would be difficult to improve upon. Trading is carried on in a very business like way; there is little of that haggling met with in local English markets. More especially is this the case with the large buyers. They ride into the pen, glance rapidly over the cattle, make a bid, and if the bargain is made at all two or three minutes is all the time that is taken up. The sellers, of course, know the class of cattle each man wants, and consequently time is saved in this way; and in fact as time is money scarcely a moment is lost while active business is going on. The gossiping, incident to every business, is generally done in the afternoon in the hallway of the Exchange Building. Some of the largest commission houses handle from 200 to 500 cattle a day over and above hogs and sheep, and as some of the buyers purchase as many and possibly more it is easily seen that there is not much time to be wasted.

The classes of cattle coming to market are pretty well defined. We have first the "exporters;" this includes cattle that are suitable for the Eastern markets as well as good enough to go to England. Second, the "dressed-beef" steers, suitable for the dressed beef business. Third, "butcher stuff," composed of light steers and the better grade of cows. Fourth, "canners," which includes everything not good enough for butchering; and then as an extra class we have the "range" cattle, which are pretty well divided among the last three classes named. Last season, for instance, many of the best "rangers" went to the dressed beef trade; but, as a rule, many of them are either put on to feed or taken by the dressed beef men for a second grade beef, while an enormous number of them, and more especially those from Texas, are put into cans.

The prices ruling for all classes of cattle may be calculated from the following table, taken from a market circular, dated January 12, 1889:

Extra prime steers.....	\$5.25 to \$5.50
Exporters, 1,450 to 1,600 pounds average.....	4.60 to 5.25
Good dressed beef and shipping steers, from 1,400 to 1,500 pounds.....	3.75 to 4.50
Fair to medium steers, 1,150 to 1,400 pounds.....	3.50 to 4.00
Common to fair steers, 900 to 1,150 pounds.....	2.75 to 3.30
Good cows and heifers.....	2.35 to 3.25
Fair to medium cows and heifers.....	2.25 to 2.50
Canners.....	2.00 to 2.50
Bulls.....	2.00 to 3.50
Good stockers and feeders.....	2.00 to 3.50
Common stockers and feeders.....	1.50 to 2.60
Calves, heavy, 300 pounds and upward.....	3.00 to 3.50
Calves, light, 100 to 180 pounds.....	4.25 to 6.00

The prices quoted are about the lowest

ever known in Chicago, and this is greatly owing to immense receipts. The average price, however, of the last ten years has ruled \$1 per 100 pounds above present quotations. Take, for instance, good 1,400 pound bullocks: the average price for these has been \$5 to \$5.10 per 100 pounds during that time, or the price of such a bullock had been \$70 per head, netting to the owner probably an average of \$65 after paying freight, commissions, etc. To reduce it to English money, a fifty-seven-stone bullock of fourteen pounds to the stone is worth £14 18s 9d. The American farmer west of Chicago has in round numbers received on an average about £13 10s for his bullocks of this weight during the last ten years.

The movement of cattle is almost entirely eastward. San Francisco, which is a large market, draws quite a number of cattle from California and the adjoining States, but otherwise there is a continual movement toward the East. The movement begins at the Gulf of Mexico; the barren plains of Arizona, the sagebrush valleys of Nevada and far Montana all contribute and send forward their consignments. From those distant points the work of shipping is no easy matter. The various lines at suitable points have feeding yards, where hay is supplied at three times its value. Cattle can be run from 300 to 500 miles without feed and water, but as a rule the feeding stations are generally placed about the former distance apart. Within the last year or two "palace" stock cars have been introduced, and by this means cattle can be run practically any distance, as they are constructed to allow the animals to be fed and watered without unloading. What are known as the "Street" cars, built on this principle, have up to this time been the best produced, and they are likely to maintain their lead, as they can be divided into three compartments, which to a great extent prevents bruises. The writer has repeatedly run cattle 1,300 miles in these cars, never unloading from the point of shipment till Chicago was reached.

The cattle having reached Chicago are sold as we have described above. Those which are bought for shipment are driven over to the shipping divisions, where they are loaded up and forwarded to their respective destinations. The dressed beef men generally allow their cattle to remain in the pens over night, and the next day after they are purchased they are driven over to the slaughter houses. The alleys in the yards have become so crowded that during the last few years viaducts have been constructed overhead, and along those the cattle and hogs are driven to the respective packing houses.

Some Experience in Hog-Raising.

The following article was inclosed in a business letter to Prof. Shelton, of the Kansas Experiment Station, and by him transmitted to this office for publication:

We have a little farm on the waters of Elk, in the county of same name, and a water grist mill where we do a general exchange business such as is common in country mills. Casting about to find a market for our surplus toll, we settled on hogs and fenced in a large lot, just below a spring, where there was a constant supply of water running. My manager informed me that it was the best corral of its size in the county, and upon investigation I thought so myself.

A good stock of hogs were bought, and the pigs promised to make pork in the shortest time and with the least amount of feed. This was in March of 1888, but sad to relate, those pigs went entirely back on their promises, and are not yet marketed, though they are nearly fifteen months old. As time rolled by, my manager, who is very enthusiastic in hog-feeding, became discouraged, and finally disgusted. He even proposed to leave the place. He fed various mixtures of corn meal, bran, shorts, etc., from the mill, but they would not eat. He bought various drugs, which together with an ample supply of coal,

ashes and salt, were placed where the swine had daily access, but still they would not eat. As a final resort, he cooked nearly all of their feed last winter, but, it was the old story, they would not eat. When they were a year old, and after they had all the care, attention, and shelter that the best of hogs deserved, they would not average seventy-five pounds. About that time a friend suggested that they were eating sand and rock, and though there was no sand rock in the corral, we watched them and found that they were in the habit of eating the sandy gravel off of the hill-side of what we had pronounced the best corral in the county.

We then separated them, putting about half of them in the pen at the mill, taking the poorest and scrawniest of the lot. For a time there was but little perceptible improvement, but in the course of a month they looked decidedly better, and soon passed their more likely brethren that had been left in the corral, though they too had been shut off from the gravelly bank.

The sequel is that, at this writing, several are ready for the butcher, and as we have made a new corral our hogs are all doing well as we could ask. If I had known this in time it would have saved me many dollars, my manager much hard work and disappointment, and the pigs nearly six months of existence. For these reasons I retail to you this portion of my experience, hoping it will be a benefit to others.

CHARLES A. BEURGAN.

Howard, Elk Co., Kas.

Are We Raising Too Many Horses?

It is getting to be a common habit among men to overdo things. When a certain line of business pays well, if it is not too expensive, it is soon overdone by enthusiastic adventurers. "A warning voice" is raised by the *American Cultivator* in relation to the raising of horses. While our excellent contemporary suggests rather than warns, and while we agree with it in the expectation that as to certain lines of horses there is not much danger of raising too many, we believe it will pay to raise good horses of all the useful classes—those for heavy and light draft, for saddle and harness. We do not believe that farmers ought to breed fast horses. Here is the *Cultivator's* article:

"The fact that most every one in this country who is situated so that he can be turning his attention to horse-raising, has caused considerable apprehension to thinking men as to whether there is not great danger of overdoing the business. So far as animals of ordinary merit are concerned there appears to be good grounds for fear. Electricity and cable bid fair to supplant horses as a motor for propelling street cars. This will doubtless eventually throw thousands of common horses upon the market. It will cut off one of the greatest sources of demand that ever existed for good sized, serviceable horses, and must in time affect the market price of common animals.

"It is predicted by some that the increase of business throughout the country, resulting from the rapid growth of population, and the opening of new street car lines in large villages, will be sufficient to require the services of all horses likely to be thrown out of work by electricity, also the vast numbers that are now being raised. As proof of the correctness of their views the fact is cited that when the old stage coaches, as well as the two, four and six-horse teams, were crowded off their routes by steam engines, it was predicted that there would be no further use for team horses, yet the demand for such has constantly increased.

"The conditions now are entirely changed. When the steam cars took the place of stage coaches for transporting passengers, and horse teams for the carrying of merchandise, the country was undeveloped. New industries sprang up at once along the lines of different railroads in all parts of the

country. Extensive mines were opened and large factories established. A vast army of horses were required to transport supplies and raw materials from the railroad stations to the manufactories, and return the product of the loom, the anvil and soil to the railroad stations.

"The result was that the demand for horses increased rather than diminished. The substituting of electricity for horses will be no more likely to cause a demand for car horses than the introduction of the mowing machine and horse rake does to increase the demand for the scythe snath and old-fashioned hand rake, or the introduction of the large reaping machines used in the vast wheat fields of the West does to increase the demand for the old-fashioned sickle and grain cradle.

"It is more popular and agreeable to paint the picture in glowing colors than otherwise. Breeders who look the matter squarely in the face, however, will be able to shape their course so as to avoid disaster. There is sure to be a demand so long as time lasts for first-class horses of all kinds, coachers, roadsters and trotters, and such will always command good prices. The foreign demand for the latter is rapidly increasing. The breeder who succeeds in raising the best animals of either of the above classes will always find himself on safe ground. There is but one way by which this end can be attained. It is by securing the very best mares that can be found, those which possess the highest degree of merit, and mating them with the best stallions of their class in this country."

In the Dairy.

Ravanna Cheese Factory.

EDITOR KANSAS FARMER:—You will probably recollect that I took up the pencil last winter against G. W. Glick's statement, that western Kansas was not good for anything but sorghum, and I advocated dairying. Seeing that you have made a special request for a report of cheese factories and creameries, I will say that I started cheese-making here March 5, with the milk from my own cows, only part of which were giving milk. I worked only my own until April 8; I had about 150 to 200 pounds per day. April 8 I opened the factory and commenced to receive milk from a few neighbors, only 360 pounds, but now I am receiving over 3,000 pounds per day, am making over 300 pounds of cheese and still increasing. I am making full-cream cheddars, principally of export quality. The cheese is pronounced even by county seat rivals to be as fine as ever they saw.

At the stores where they have been kept on sale the cheese trade has more than doubled. The March cheese was sold at 12½ to 14 cents wholesale. We are now getting 11 cents wholesale. I will ship to-day to Sproat & Son, Sixth avenue, Topeka, some cheese, as per arrangement with Mr. H. C. Speer, who was here and sampled the cheese in the factory. We have on hand about 10,000 pounds at present. Our factory is of stone, 21x30 feet, and we are now working on an addition, 21x34, which will treble our capacity for storage.

JOHN BULL.

Ravanna, Garfield Co., Kas.

This is as the KANSAS FARMER has been preaching all along. Western Kansas will yet take the lead; at any rate it will soon be abreast with the eastern part of the State.—EDITOR.

The Creamery Not a Panacea.

Like many other things that have risen and flourished in Kansas agriculture, the creamery is in danger from its friends. That it has a place here, and a most important one, perhaps none will question; but that it offers a panacea for all the ills of dry weather and low prices, as claimed by enthusiastic "boomers," may well be denied.

To the farmer who can avail himself

of the advantages of a creamery, it is most valuable in many ways. It furnishes him a ready market for his cream, and thus brings him a fixed income at all seasons. It does his churning cheaper and better than he could do it, and furnishes him a good article of butter, which it is difficult to even imitate at home. It compels him to study the merits of breeds, and to improve his own herd to a paying grade or quit the business. It causes him to study the subject of foods and their combination into rations best suited to the object sought. It teaches him that a beef and a butter producing animal is not often found in the same hide, and that the methods of the range will bring disaster to the dairy herd. It enforces cleanliness and thrift in some degree, and so compels prosperity. It makes him put thought into his business, and teaches many small things are necessary in a great total.

Properly constructed and properly handled, it can result in nothing but good to the community that supports it, but that it will solve all of the many vexed questions which arise in making ends meet on the farm, is too much to claim for it. A creamery will pay, but it will not give something for nothing.

Secretary Graham, in *Industrialist*.

Feeding Value of Buttermilk.

We find among our clippings from old exchanges, that while calves should never be given any sour food, and should be fed only upon sweet skimmed milk warmed to 80 deg., the milk and buttermilk will be very useful to the pigs. Many useful experiments have been made in feeding pigs upon these kinds of milk with corn meal, which together make the most profitable feeding in every way for these animals, furnishing a meat well mixed with lean and having hard firm fat. It has been supposed that buttermilk is not so nutritious as sweet milk, but experience and experiment do not confirm this belief. On the contrary, buttermilk has made slightly cheaper pork than the sweet skimmed milk. Certainly the pigs seem to favor the sour food rather than the sweet. It may be that the lactic acid of the milk is an aid to digestion; it forms a part of the gastric fluid and may be reasonably supposed to help this process of nutrition; at all events, the acid affords nutriment and is not a waste, as some persons seem to think. When fed with corn meal, which was valued at the market price of 1 cent per pound, the buttermilk has been found worth 1 cent per gallon. Of course this depends upon the value of the pork which, in this case, was 5 cents per pound, a very low price for dairy-fed pork. At 7½ cents the buttermilk would be worth 1½ cents per gallon. In the use of this waste product, and skimmed milk as well, it is an economy to feed it as soon as possible, mixing the corn meal or bran with it when it is fed. Over-sour food is not healthful, and this is in nearly every case the cause of that unhealthy condition of pigs which is marked by corroded or black teeth, and which is supposed to be a disease in itself, instead of, more correctly, a product of disordered digestion.

Edwards County Cheese.

Edwards county now has two co-operative cheese factories—one in this city and one at Lewis—which use about 11,000 pounds of milk daily, making 1,100 pounds of cheese. The Kinsley cheese factory was started about the middle of October, 1888, with hardly enough milk to pay them to run, but it was not long until they were taking in enough to make it interesting, and now they are receiving 6,000 pounds daily, and expect, in the near future, to receive 8,000 pounds or more. They are now getting about all the milk they can handle, but have ordered another large vat, which will arrive in a few days, and then the capacity will be increased so they can work up 10,000 pounds daily.

The directors declared a dividend a few weeks ago which paid the patrons 1 cent per pound for their milk. At the same rate they are now taking in about \$20 worth of milk daily, which is divided among thirty-eight patrons, most all of whom are farmers. The cheeses are all sold that are seasoned to go on the market, and the company now have several large orders waiting to be filled.

The Lewis factory commenced operations about three weeks ago and is now running at full capacity, and like the Kinsley factory, will have to enlarge their facilities. They work up 4,500 pounds of milk, and will in a short time be able to handle 8,000 pounds daily. No doubt they will get all the milk they can handle when they have enlarged their capacity for making cheese.

The cheese industry of this county is bound to help the farmers as nothing else would, for the reason that this is a natural stock country, and they can raise just as many and as good calves, and sell a portion of the milk, as they could if they let the calves have all the milk. The farmers have found that they cannot make butter for the market and make anything out of it, because there is too much work about butter-making for the price realized.

We hope to see the cheese industry keep right on growing as fast for the next year as it has in the last seven months, and that several more factories may be established over the county.—*Kinsley Banner-Graphic*.

BRECKMAN'S PILLS act like magic on a weak stomach.

KANSAS FARMER REPORTS

THE BEST WHEAT CROP SINCE 1884.

Corn Backward But in Good Condition.
--Oats Generally a Heavy Yield.

SOUTHWEST COUNTIES ALL RIGHT.

New Crops in the West Doing Well.

The KANSAS FARMER this week presents a good report from every section of the State. Floods in the southeast destroyed a considerable acreage of heavy wheat, and rains in many places interfered with work in corn fields, so that weeds took a good start, but work is well in hand now, wheat is about all saved, most of the oats is cut, and corn, on the whole is very good. Insects were troublesome in localities, injuring oats more than wheat, and there is no complaint of injury to corn from bugs. The southwestern counties, which were reported unfavorably last month, have improved and now report fair crops. New crops, sorghum, Kafir corn, milo maize, broomcorn, etc., are reported in first-rate condition wherever they are growing. The condition of the farm crops, taking the State over, is better than on the 1st of July in any year since 1884.

Atchison.—We are just in the midst of wheat harvest, and have a fine crop; bugs are hurting it a little in places. Don't think there will be any corn planted on wheat stubble on account of the bugs. Oats promise good. Fruit only fair, very few peaches.

Bourbon.—But little wheat raised in this county; what there is has made a good yield. Oats have been damaged by bugs and rust; will make three-fourths crop. Corn is doing splendidly, the past week of good weather has enabled farmers to clean it on nicely. Flax never furnished a better yield, with an increased acreage over former years. Sorghum is small but is looking well. No new crops raised.

Brown.—Fall wheat has made a good crop, which I think will average 21 to 22 bushels per acre, and it is one-half in the shock and will nearly all be cut by the 4th of July. There is but little barley and rye raised about here, but what is has made an average crop. Oats above an average acreage sown, have made a big growth and are now turning without rust, and ought to average 65 bushels per acre, as they look now some fields will be fit to be cut by the 5th of July. Corn made a good stand and has been kept very clean but the cool weather the last part of May and first of June prevented it making the growth that it ought to, but the hot weather of the past two weeks has brought it forward very fast, so that by the 4th of July it will be nearly up to the average and I would put it 100 per cent now. Tame grasses are making a big growth and we shall commence cutting the 1st of July. Pastures have feed in abundance.

Butler.—Harvest is retarded on account of rain and some damage done; threshing has commenced; the yield is fully up to expectations. Oats is 10 per cent. above an average crop; will be ready to harvest next week. Corn is backward on account of rain, good stand, prospect flattering. Potatoes above an average. Sorghum good. No preparations to crop after wheat.

Cherokee.—Wheat all harvested, and being threshed, quality, best ever grown. Probable average yield eighteen bushels. Oats injured by rust, too much rain while grain was forming, is now being harvested, probable yield, twenty-five bushels. Corn good stand, but excessive rain made it weedy and ground compact, is being cleared. But little preparation of wheat stubble ground for other crops. No Kafir corn grown. The usual amount of sorghum planted, fair stand, but in bad condition. The last week of the month favorable.

Clark.—Wheat is about all harvested and will be a fair crop, so little has been threshed that I don't know what the yield will be, perhaps fifteen bushels. Oats will be light. Corn is looking fine and is tasseling. Very little corn if any will be planted on wheat stubble ground. Sorghum, Kafir corn and milo maize is doing well. Castor beans, of which a considerable crop is planted, are doing well. Garden truck is good. Weather has been quite favorable for a month, no heavy rains, but several nice ones. Have had an unusual amount of cloudy weather.

Clay.—The prospect for all kinds of field crops continues good. The wheat and oat crop now being harvested are on an average. There will be some corn planted on wheat stubble ground, but not extensively. Dry weather and chinch bugs are reported in some localities, but no serious damage has been done by either up to the present time.

Coffey.—Wheat all harvested, except a small acreage on land too wet to run binders at present, on account of rains; all harvested is in good condition. Oats No. 1, and commencing to ripen; harvesting will commence next week. Sorghum doing well. Corn doing very well, farmers are getting it clean and in good condition. No planting of corn on wheat stubble ground.

Comanche.—Wheat considerably hurt by late frost. Some fields of late wheat will be a good yield and fine quality. Corn in as fine condition as could be, ground in fine order, early corn tasseling out. There will be a large amount of late corn planted, some on stubble land. Oats only about one-half crop. Sorghum and millet good. Some Kafir corn planted and doing well. Potatoes good. Farmers generally feeling pretty jubilant. Stock in fine condition, pasturage extra good. No disease among

stock. Everything included I think our prospects the best we have ever had.

(2) Wheat is some better than we expected it would be in our last report; some is turning out from fifteen to thirty bushels per acre, while some fields in other localities would not pay expenses for cutting, yet we will have a little over half crops of wheat, and fair quality. Oats is almost a failure. Corn at this writing is immense. We have had considerable rain this spring and the prospects for corn, sorghum and Kafir corn is very flattering. No insects of any kind yet to hurt the crops. Potatoes are doing well. Considerable corn will be planted on the wheat stubble ground. Kansas people have a world of enterprise and energy, as life, according to the old adage, is hope, and try and push ahead, hoping that this will be the reason that they will be rewarded for the labor of their hands. Upon the present crops hangs the future happiness of many a family who have mortgages upon their land.

Crawford.—Wheat very good, not as much sown as usual, think it will average more than last year, and of better quality. Oats fair crop, damaged some by rust, to what extent can't tell yet. A great many fields of corn bids fair for a large yield, other fields quite small, with seasonable rains will have a fair crop. Do not know of any one preparing to plant after wheat is harvested. Sorghum is small but bids fair for a good crop.

Decatur.—Wheat both fall and spring a good prospect. Oats heavy, and with one more rain will be splendid. Corn booming, but a good many weeds. Have not heard of any one intending to plant wheat stubbled to corn. Potatoes are fine.

Dickinson.—Wheat harvest is in full blast, condition and quality good; a few chinch bugs in spots; prospects are cheering. Oats are superb, the finest general crop in sixteen years; farmers will have to add an extra horse when they come to cut. Corn a good stand, fields very clean, growth vigorous, prospects good. No talk of planting corn or other crops on wheat stubble. Kafir corn, African millet and mangel wurzel are being grown extensively and are growing luxuriantly. Permit me to advise my brother farmers to try African millet. It is far ahead of Kafir corn, has a finer and more luxuriant foliage, and will stand cutting for forage three times a season, seed abundant.

Dontphan.—Wheat is all in the shock in No. 1 condition. Oats are good but not ready to be harvested yet. Corn is laid by in No. 1 condition, and with a few showers through next month will make a full crop. No corn will be planted on wheat stubble in this county, as farmers in this county are satisfied with one crop from the ground for one season; better plow one crop under than to take two off.

Ellis.—Wheat and oats are excellent. Harvest has been delayed by rains. Some corn has been injured by wet weather, but in general it is in good condition. But little, if any, corn or sorghum will be planted on wheat stubble. Potatoes, sorghum and milo maize are doing well.

Ellis.—Wheat, oats, rye and in fact everything now approaching maturity is fine. More fields of wheat will exceed twenty-five bushels per acre than will fall short of fifteen bushels; I think it will be safe to say therefore that the average will be over twenty bushels per acre for Ellis county. Fruit is fine, one party here has marketed eighty bushels cherries in the last few days. We have just made arrangements for the manufacture of the Stickle header at our town, also the building of a college. Plenty of rain, less insect pests than usual. Corn and sorghum, with other late crops, quite promising, yet not quite so clean of weeds as they should be. Not much planting being attempted on wheat or rye stubble.

Ellsworth.—Wheat is being harvested, some is rusting, some is shrunk, but in the main it is good. Oats are good. Corn is doing nicely, much has been replanted. A few will list in corn on stubble. Sorghum is growing nicely.

Finney.—Wheat is matured and principally in shock; will yield twenty to thirty bushels per acre; a large acreage will be sown this fall. Oats is about matured and will make a good yield, the best in five years. Corn is promising well and is in fine condition. A large acreage of sorghum, rice corn, milo maize and Kafir corn have been planted, and all are doing well. We hear of very few farmers who will plant oats or wheat stubble, except that considerable ground will be sown to alfalfa in August. Crop prospects fine and everybody happy.

Ford.—Wheat all harvested and is being threshed, yielding from twelve to twenty-five bushels per acre; generally very good grain. Corn most all laid by and never looked so well at this time of year before. Millet is in fine condition. Sorghum has made a splendid growth up to this time. Kafir and rice corn are both showing a wonderful growth. Very little wheat or rye stubble being planted in corn or other crops.

Franklin.—Wheat good so far as observed. Oats poor to fair, average moderate. Owing to excess of rain in spring and continuously to the present, a considerable amount of corn was very late planted and is now from very small to drowned out altogether; most corn has been owing to superabundant rains, very poorly worked, and is now very weedy as a whole; the outlook is now for a light crop.

Graham.—Wheat will be immense in yield, the acreage is not as large as usual. Rye was never better. Oats good but short in straw. Corn never looked better, in fact everything planted this season is looking well. Some Kafir corn planted, which looks well. The early potato crop is good and out of danger of drouth.

Gray.—Wheat hurt some with frost, but will yield from ten to twenty bushels per acre; think there will be a large acreage sown this fall; plenty of rain so far to mature crop. Oats is short but will be a fair crop; late rains have been a great help to oats. Corn is looking fine and bids fair to be a large yield, if it continues to do as well

as at present. Do not know of any corn or other crops to be planted on wheat stubble. Condition of sorghum, Kafir corn and other new crops are up to average and look very good, in fact everything is very promising at the present writing.

Harvey.—Our wheat crop is very fine, many farmers placing the general average yield at twenty-five bushels, but the weather continues so wet that we can't get into the fields to do much harvesting; quality of wheat very fine. Oats crop is the largest and heaviest we ever had, but is badly damaged by the heavy rain storm of last Monday night, a great deal of the crop being down flat. Corn is very fine, and is making a rapid growth. I am not apprised of any Kafir corn being raised in our county yet. Sorghum is very fine and is making a vigorous growth, the same with millet, and all tame as well as the wild grasses. Weather clear and hot to-day.

Kearney.—Dry weather in May, seemed at the time to almost ruin the wheat in a portion of the county, but timely rains all through this month have caused it to head and fill well, though too short to harvest without much trouble. In the larger portion of the county the crop is good. Also rye, oats and corn. Not much of the stubble will be replanted for second crop. About as much sorghum as corn has been planted on the upland, and is looking well. Kafir and maize are also looking well. Under irrigation all crops are looking well. The first cutting of Alfalfa cut from one to two tons per acre; the second is nearly ready to begin on, with promise of a larger crop than the first.

Kiowa.—Wheat harvest about over, quality generally good; some smut in some fields on hard land, no smut in sandy soils. Corn in good growing condition but not quite so advanced as last year at this time, but with abundance of rain up to the present time a good crop is almost assured. Oats short but well filled and will be a larger yield than last year. Sorghum good. Considerable Kafir and milo maize were planted and are looking well.

Labette.—Wheat all cut, and a large acreage already in stack and threshed; it is of good quality, and yielding well, generally from twenty to thirty bushels per acre. Oats is good, harvest part done, some damaged by rust, otherwise good. Corn never before promised as well, taking the county over, with a large acreage, good stand, and the thorough cultivation it is getting there will hardly be any limit to our corn. But little wheat stubble will be plowed for other crops this year. Sorghum is doing well, an increased acreage having been planted this season, especially for fodder use.

Leavenworth.—Wheat harvest is in full blast and about one-half is in shock, and such a crop was never seen here; a little damage in south part of the county by hail. Oats is all that could be asked. No preparations for planting corn on stubble that I know of. Sorghum in fair condition but a little backward. Know of no Kafir corn growing in this county.

Logan.—Wheat mostly in shock and is fine. Oats a fair crop, will cut this week. Corn is looking fine, with favorable weather for two weeks will have full crop. Sorghum, rice corn, Kafir corn and other cereals are doing fine. Prospects for good crops were never finer than now. There will be a large acreage of wheat sown this fall.

Lyon.—Wheat harvest is well advanced, and bids fair to be a full crop. Oats never looked better in this part of the county, and there was never such an acreage. Corn is in first-rate condition, except in small localities where the rain has been excessive for tillage. Sorghum is not grown, except in small patches for home use, but in such the plant is healthy and vigorous. Kafir corn is not grown much here. Tame grasses are very promising, the timothy is now ready for harvest. Everything on the top wave of prosperity.

(2) Season has been good. Four clear days this week without rain. Putting up clover hay. Wheat all cut and in shock in good shape, will make 25 to 30 bushels per acre. No. 1 quality. Prospect for oats the best for many years, commencing to ripen in some places. Corn was backward for some time owing to excessive rains, but lately the season has been good and now the corn mostly well tended, and much of it is laid by. Prospects for wheat, oats and corn in Lyon county could hardly be better, while all other crops are in about the same proportion. Chinch bugs nearly extinct.

McPherson.—Wheat crop immense, some fields will yield from thirty to forty bushels per acre; about half harvested, neatly bound, quality will be very fine, I think it will all grade No. 2. Oats harvest has also commenced, but some fields hardly down, owing to excessive rains. There will be some corn planted in wheat and oat stubble. Some sorghum planted, condition good. A few small fields of buckwheat sown, and it is just up and looks very fine. Weather warm. Prospect for more rain.

Meade.—Wheat improved rapidly after my last report, owing to favorable weather, and most men report a profitable yield. Oats also better than at that time, and will make from twenty to thirty bushels per acre. Corn never looked better at this time of year than now, early corn is tasseling out. Some few will plant corn on stubble ground, but more will plant cane. Sorghum, Kafir corn, milo maize and rice corn growing finely. Early potatoes in market and good. Have had good rains for some weeks in most parts of the county. Grass is growing well, pasture good, and first crop alfalfa cut and a good yield.

(2) Wheat is a very light crop, owing to frost in May and continued dry weather in most parts of this county. Some few are putting in sorghum on wheat stubble. Sorghum is doing well, about 2,000 acres put in for sugar factory, will be ready by middle of August. Kafir corn looking well, quite a large amount put in. Alfalfa good crop, cutting second crop now. Oats a light crop, good crop on new land, much of it not well

filled on old land. No chinch bugs. Oats good crop, now being harvested. Corn looking remarkably well, warm, wet weather pushing it ahead rapidly. Some preparations being made to plant corn on stubble, but not to any great extent. Sorghum, Kafir corn and all other crops looking well. Second crop of alfalfa nearly ready to cut.

Montgomery.—The wheat is more than half harvest a; some are done and threshed; I heard one man say his was not as good as he expected, but about twenty-five bushels. Some corn musty, too wet. There will not be any special planting on stubble ground. Large acreage of sorghum. Peaches abundant, 25 cents a bushel. New wheat in the mills.

Morris.—Oats promise a large yield. Corn in elegant shape, more than half too large to cultivate. Tame grasses immense yield, two and one-half tons per acre. Stock in elegant condition. Amount of pigs 50 per cent. less than last year.

Morton.—Average yield of wheat is light, but quality fine, the berry being very large, harvest in progress now. Oats are not mature yet, but promise unusually well, heavier than any preceding year. Rye is a fair crop. No general preparation for any crop to follow on wheat stubble ground, some will plant wheat again, however, others millet and sorghum cane. The condition of sorghum, Kafir corn, milo maize and rice corn is good, but they are small yet, being the last crops planted; some more will be planted yet.

Nemaha.—Wheat good, is being cut, small acreage. Little if any corn on stubble. Oats very good, will begin cutting about 4th of July; Texas variety raised mostly. Corn growing very fast, is being laid by. Ground moist, weather warm.

Neosho.—Wheat on the upland all harvested and in good condition, that on the Neosho bottoms is being cut as fast as the condition of the ground will permit; it is standing up well, is dead ripe and with a few days of dry weather will be safely harvested, with the exception of what was destroyed by the overflow. At this writing it is hard to estimate the loss by overflow, but think 25 per cent. will cover all losses, and with the large acreage and its present condition I think the yield will exceed any former year. Corn, with an occasional exception, is in extraordinary good growing condition; we are having regular Illinois corn weather, which has caused the corn to grow faster than ever known before in these parts; there was some loss by the overflow on the Neosho bottoms, probably 20 per cent., which will be replanted if the ground dries out in time. Oats, at this writing it is hard to make an intelligent report; acreage is larger than ever before and up to ten days ago gave promise of an extraordinary large yield, but the red rust has struck them bad and a great many are cutting in a rather green condition in order to save them; I have seventy acres the finest I ever saw, but badly rusted, they are well filled but can't tell what the outcome will be until they are cured. Grass, both tame and wild, extraordinary large growth and will turn off extra well. Garden truck, all kinds, in abundance, more than the county can consume. There was a bountiful supply of all kinds of small fruits, peaches are loaded down, apples a good half crop.

Ness.—Small grain is better, with larger area, than anticipated in last report. Probably some sorghum and rice corn will be planted in stubble ground. Corn and sorghum, in fact all crops, are fully up to the average, except that much has been taken up by squirrels, etc., necessitating replanting rather late, and deferring the cultivation until the weeds get the advantage. There is quite a crop of the Russian mulberry.

Osage.—Wheat good and harvested in fine condition. Six weeks ago the oats prospect was very poor, quite a number of farmers plowed them up and planted corn, but now there is a great change, the oats crop will be a big one. Corn is booming. All other crops look well, grass never was better. Some will sow buckwheat, some plant sorghum and some will plant corn in their wheat stubble.

Reno.—It has never been more seasonable in the history of Reno county than this spring, plenty of rain just as needed. Wheat and rye all harvested, and much of it is stacked in fine order; quality and yield fully up to previous expectations and reports. Oats and corn extra good. Corn has grown very fast the last week. Oats very heavy and ripening. I hear of some corn being listed on stubble right after harvesting. Sorghum, potatoes, peaches and small fruits extra. Amsden, June and Alexander peaches are ripe—first picked on June 22.

Republic.—Less than 2,000 acres of wheat sown in the county; the crop is made and about ready to be harvested; the yield will exceed twenty bushels per acre, quality excellent. The best crop of oats in years, with an increased acreage; the average yield for the county will not be less than forty bushels per acre if the harvest is gathered without storms. One hundred and forty thousand acres of corn, splendid stand and good growth, ground clean and in excellent condition generally. There will be no planting on wheat stubble in this county. All other crops, including grasses, in fine condition.

(2) The weather thus far has been good for all crops, a little cool for corn, which is several days late, but prospects remain good; some bugs in oats, but no damage reported. Apples and peaches were damaged by late frost and perhaps will not go over one-third of a crop. Wheat is good, so are oats. Rain needed, but present indications for rain are good, which causes all to feel good. But little sorghum or Kafir corn planted here. As everything in general does well in Kansas, why not some of us turn our attention to hemp, and manufacture twine sufficient for the State? It would tend to diversify labor and add a new and profitable industry, and raise, manufacturer and consumer might be benefited thereby.

Rice.—Wheat is excellent, excepting a few late pieces that are rusted; the next three days will put most of the wheat in stack. Oats, the best this county ever had. Corn doing fine. Sorghum first-class. Will be quite an acreage of dwarf broomcorn planted, both for feed and brush. Potatoes were never better here.

Roos.—Wheat in splendid condition, rye and oats ditto. Harvest commenced generally

June 24. Corn rather backward but growing well now. Good rains every few days. Some few will list corn and cane on stubble.

Russell.—Wheat, 34,035 acres; average yield twenty bushels per acre. Corn, 34,779 acres; an abundance of rain; ground in fine condition and prospects very flattering for a large crop. Oats, 4,339 acres, and 11,078 acres of rye, both of which are the finest raised for years. There is quite a large acreage of sorghum in, which is doing finely. But little Kaffir corn in. The prospect at present indicates that Russell county will raise her largest crop of grain this season.

Sedgwick.—Wheat nearly all harvested and with but a light percentage of damage; sample good, yield large. Oats very heavy, somewhat laid, but think 90 per cent. of it will be saved if weather is favorable from this on; cutting will begin in a few days. Sorghum look well, acreage small. There will be some good timothy and clover meadows in our county this year.

Shawnee.—All kinds of crops are looking well. Oats, corn and wheat a full crop if everything continues favorable. Apples one-fourth crop, peaches full crop, cherries enormous crop, gooseberries and all other small fruits good. Large acreage of late potatoes being planted. Some corn being planted on wheat stubble.

Sherman.—All crops in most promising condition. Wheat not harvested yet, but estimated yield from thirty to fifty bushels per acre. Oats, estimated yield from forty to eighty bushels per acre. Corn in excellent condition. Plenty of rain, all we need. No disaster in sight from any direction.

Smith.—Wheat is being harvested, is a large crop and of good quality. Oats are nearly ripe and are extra. Corn is a little backward but is growing well at present. Rye an immense crop. There will be some corn planted on stubble ground, also some millet. Acreage of sorghum and Kaffir corn small but looks well. Garden truck and potatoes extra.

Sumner.—The bulk of the wheat is harvested, wet weather interfered and has made a late harvest; I think this the wettest harvest for twelve years. Oats are very heavy and some are going down; if the weather should remain dry for ten or twelve days we will harvest a magnificent crop; oats are ripening rapidly. Corn will be listed on stubble ground but not extensively. Corn is grand and the promise first-class; some early varieties tasseling and some silks can be seen; sweet corn roasting ears are in market now. Tame grasses No. 1. Apples and peaches light crop. Potatoes never better, shipping by carload daily. Small fruits excellent. Stock in fine condition.

(2) Wheat all cut, part in stack, damaged some by too much rain, will yield close to twenty-five bushels per acre, fair quality. Oats badly rusted, some pieces have fallen, owing to heavy rains and wind. Corn in good shape, some pieces have tasseled and silks. Sorghum, both that planted for feed and that intended for the sugar factory at Conway Springs, is in good condition.

Trego.—Wheat and rye are above the average in this county. Harvesting is in progress. Cane and sorghum looks fine. Very little experimenting with new crops. Heavy rain in eastern and central part of county this morning, insuring big crop of potatoes.

Wabawsee.—Wheat is mostly harvested, crop good, a few pieces injured by chinch bugs, but as a whole a fine crop is secured, or soon will be; the grain is plump and heavy; probable yield twenty bushels per acre. Some varieties of early corn will be planted on wheat stubble, but only a small acreage. Sorghum is doing finely where well tilled, and will make a big yield, barring accidents. Flax looks fine at this time, but acreage is less than last year.

Wilson.—Wheat three-fourths harvested in good shape and being stacked; a few more days of dry weather and all will be saved in good order; the yield will be large and of good quality. Oats harvesting has just commenced on the earlier sown; they are damaged by rust, but to what extent is not known; I think the yield will be the largest ever threshed in the county. Corn is looking fine, some silking and tasseling, and some not plowed the first time; the prospect is good for a large yield. But very little corn will be planted on wheat stubble. Sorghum looks fine. No Kaffir corn planted in this county.

Woodson.—Wheat harvested in good condition. Oats are a good crop, partly cut and in shock. Corn is doing finely, good stand, some in silk. Sorghum is good, but little raised here; same is true of Kaffir corn. Grasses good, stock doing well. Fruits plenty and of good quality; peaches are ripe at this date—June 27.

BOYS!

If you are interested in a business education, that will be worth a fortune to you if taken, write to me, mentioning this paper, and I will send you by mail an elegant illustrated catalogue and beautiful specimens of penmanship, free. Address D. L. MUSSELMAN, Principal, Gem City Business College, Quincy, Illinois.

Topeka Weather Report.

For week ending Saturday, June 29, 1889:

Date.	Thermometer.	Rainfall.
	Max. Min.	
June 23.....	78.0 50.4.....
" 24.....	70.8 58.0.....	.32
" 25.....	83.2 59.2.....
" 26.....	84.8 59.0.....
" 27.....	88.8 61.4.....
" 28.....	89.2 65.2.....
" 29.....	86.5 65.0.....

Every reader of this paper will have noticed what has been said weekly about Shallenberger's Antidote for Malaria. No statement has ever been made which is not strictly true and more than substantiated by experience. No testimonial has ever been published which is not genuine, and the original of which is not in our possession. If you are the victim of Malaria, don't trifle with Quinine, but get the Antidote and enjoy health. If your druggist don't keep it, send one dollar to Dr. A. T. Shallenberger, Rochester, Penna., and get it by mail.

NEW ADVERTISEMENTS.

Cooney, A. For sale.
Coe Mfg. Co. New! Just Out!
Fowler & Son, Geo. Hereford cattle.
Kern, H. H. Strawberry plants.
Musselman, D. L. To Boys.
Pecos Irrigation and Irrigated Lands.
Investment Co.
Pitney, J. Hay press for sale.
Shoemaker & Co., J. E. Manager Wanted.
Shallenberger, A. T. Antidote for Malaria.
Webster, E. P. C. Dehorning Chute.
Wood, Wm. For Small Capitalists.
Wallace, H. H. Stray colt.
Zimmerman M'ch'ne Co Fruit Evaporators.

Alliance Department.

This Department of the KANSAS FARMER has been designated as the authorized official State organ of the Farmers' Alliance and Co-operative Union for the State of Kansas. It is also the official department of the District Alliance of Shawnee, Jefferson and Jackson counties.

KANSAS ALLIANCE EXCHANGE.

To All Sub-Alliances and Alliance Men:

BROTHERS:—Your committee appointed to formulate plans for the establishment of an exchange have completed their work and herewith submit the result of their labors for your ratification. It is not expected that every necessity has been provided for, or that every objection of every individual member has been fully met. Brothers, if you can bring yourselves to a realization of the infinite diversity of opinion that exists you will at once see that this would be impossible. We believe that the plan we submit herewith is as free from objection as any that can be submitted with our present imperfect knowledge of this business, and we ask you each and all to reserve your individual objections, ratify this plan, and give it a trial. Provision is made for any needed subsequent amendment, and we believe experience will give us wisdom to adopt provisions hereafter, the necessity of which we cannot now foresee.

We cannot meet you individually or in your several sub-alliances, to explain the reasons that have led us to adopt each of the several articles of this instrument which we submit for your ratification. Rest assured, however, that each item has been carefully considered and fully discussed and nothing has been adopted without good reason. If it should be proposed to receive amendments to these articles from each sub-alliance, to be considered before the final approval of any plan, the method of reaching a conclusion would be much complicated and the time of final agreement indefinitely extended. We ask you again to forego any individual objections that may occur to your minds, ratify this plan at the earliest possible moment, raise the required fund, elect your trustee, and report your action as provided in the instrument itself, in order that we may soon reap the benefits we all have in view, trusting to experience to suggest, and to instrumentalities provided for to adopt better and more practical amendments than the foresight of any one of our number will enable us to propose at the present time.

The following is the instrument as amended and adopted at the district meeting of the sub-alliances, held at Valley Falls, Kansas, June 22, 1889:

1. The delegates representing the sub-alliances at the District Alliance meeting held at Meriden, Kas., May 25, 1889, by the power vested in them, acting for and in behalf of the members of said alliances, do hereby organize an Exchange to be known as THE KANSAS ALLIANCE EXCHANGE.

2. The purposes for which this corporation is organized are: To act as agents for the purchase and sale of all kinds of farm products, and general forwarding agents for all kinds of commodities. To erect and manage and operate ware-houses, stock yards and grain elevators, and for the transaction of any such business as may be found necessary or advisable for their profit and betterment.

3. This corporation shall have the power by and under its corporate name to enjoy the following rights and privileges, to-wit: It shall be capable in law to purchase, receive and hold and enjoy lands, goods, chattels and property of any kind and effects whatsoever; the same to grant, sell, mortgage and dispose of, sue and be sued, plead and be impleaded, contract and be contracted with, to make a common seal, to alter or break the same, to establish and put in execution by-laws governing the corporation, and to do a printing and publishing business.

4. The capital stock of the corporation shall be \$50,000, which may, by majority vote of Trustees, be increased to \$100,000. And when \$1,000 is paid in, the Board of Directors shall notify the members that the Exchange is open for business.

5. The term for which this corporation shall exist shall be ninety-nine years.

6. The headquarters of this corporation shall be in Topeka, Kansas, with branches at such other places as the business of the Exchange may require.

7. The fund proposed for the establishment of this Exchange shall be raised in the following manner and be governed by the following provisions: Each male member of sub-alliance shall be asked to contribute \$1 to this fund, and shall receive certificate therefor, said certificate to entitle the holder

to membership of the Exchange. Should any alliance refuse to contribute to this fund, any member of such alliance may, by paying the sum of \$1 become a member of the Exchange and receive certificate of membership and do business with the Exchange, but shall not be entitled to representation in the management of the business of the Exchange; provided, this shall not prevent any alliance from taking as many more shares as they choose. Any member who shall use his or her certificate for the benefit of others not entitled to the Exchange, shall forfeit all right to the benefit of the Exchange.

8. The principal of the Exchange shall never be used in the payment of salaries or other expenses, but shall be held intact for purposes for which it was contributed. Such rates of interest and fees shall be charged for its use as will pay for all expenses incurred. If at any time or from any cause the Exchange shall fall in its purpose, or cease to transact the business for which it is established, the money contributed shall be returned in full to each individual to the amount of his or her certificate. Members of the Exchange shall not be liable for any loss, damage or responsibility beyond the assets of said Exchange, nor any individual member beyond the amount of this subscription to the fund. And that anything in this Kansas Alliance Exchange plan conflicting with the statute law of the State of Kansas be made to harmonize with said statute law on corporations.

9. That when ten members of an alliance contribute the sum of \$1 each, those ten members shall be entitled to representation, or a Trustee, in the Exchange; or each sub-alliance which shall have complied with the foregoing shall be entitled to one Trustee, who shall be elected at the annual election of officers for sub-alliances. Said Trustees to constitute a Board of Trustees whose duty it shall be to elect three Directors, no two of said Directors to be from the same county. The Trustees shall make their rules under which the business of the Exchange shall be conducted by the Directors, and shall make a semi-annual report of the business of the Exchange to the sub-alliances. They shall provide for the paying of the expenses and a reasonable compensation to the Directors for their services in conducting the business of the Exchange, for the time actually employed and expenses incurred by them.

10. It shall be the duty of the Directors to appoint the necessary agents, requiring them to give good and sufficient bonds to cover the responsibility reposed, and to fix compensation for services rendered by said agents. To designate the place of deposit of said fund, requiring said depository to give sufficient bond, and they shall have general supervision of the business of the Exchange, subject to the rules provided by the Trustees, and receive and verify monthly statements from all their agents and consolidate all their monthly reports into a semi-annual report to the Trustees. The Directors shall be required to give bonds to the Board of Trustees in the sum of double the amount of the fund in the Exchange.

11. Each Trustee shall be responsible to the sub-alliance electing him.

12. It shall be the duty of the Business Agent of the Exchange to make contracts with manufacturers as far as possible for the sale of farm produce and the purchase direct from farmers of one section of the country such farm produce as is desired by other farmers; to financially guarantee, through the Exchange, grades and weights of produce; to direct county agents where to ship and grades to ship; to publish price-lists; to purchase goods for county agents, and to promote the general welfare of the order in every possible manner.

13. No money contributed to the Exchange shall be refunded to any one, except as provided in section 8, nor shall certificates be considered as stock or be transferable. The money contributed to the Exchange fund is a free gift for independence sake, and the right to the use of the Exchange is of far more value than the money given to the Exchange fund, provided when a State Exchange is organized said money shall be transferred to said Exchange for the benefit of those contributing the same.

14. Every person who has a certificate of membership in the Exchange shall be entitled to order direct from the Business Agent.

15. The Business Agent of the Exchange shall have certificates of membership, with stubs attached, printed and bound, and he shall number them and keep a record of the name in alphabetical order. Said certificate shall recite the name of the member, the amount paid, county and State of the holder, and the conditions upon which it was issued.

16. These articles may be amended by the Board of Trustees at any meeting by a two-thirds vote.

17. It shall be the duty of each sub-alliance adopting this Exchange system and thereby ratifying this plan, to subscribe for and make settlement on stock as above specified to the number of shares due from said alliance, and to elect Trustees whose duty it shall be to immediately collect amount due from said sub-alliance and to report the same to the Secretary of the District Alliance at Meriden, Kas., whose duty it shall be when a sufficient number of Trustees have so reported as to amount to \$1,000 or more, to call a meeting of said Trustees, to be held in the city of Topeka within ten days thereafter, for the purpose of electing a Board of Directors and adopting rules for the management of the business of the Exchange.

By order of the assembly.

J. M. PUDERBAUGH, Chairman.

J. G. YOUNG, Secretary.

The Twine Trust.

EDITOR KANSAS FARMER:—The binding twine combine has laid a monstrous tax on the farmers of Kansas, which they have been forced to pay this year to save their crops. The farmers were helpless this year, but the thing to do now is to provide or devise means to defeat the trust or combine, and protect ourselves in the future. I think this can be done if our Legislature will provide by law for the manufacture of binding twine in the State penitentiary.

This work would not come into competition with any labor in this State. Experimentation with flax straw, cotton and other substances, perhaps, could be carried on at a minimum cost to the State, and it might be developed that we could entirely dispense with the use of sisal and manilla in the manufacture of binding twine. The State could furnish the twine to the farmers at actual cost and thus protect our farmers from the wrongs of the binding twine trust and aid in killing off one of the meanest trusts that has put its fangs in the farmers' pockets.

There is another thing the farmers or perhaps the Farmers' Alliance ought to look into, and that is this: Some of the harvester machine companies furnish twine (at trust prices) for their make of machine, and there is no doubt that some of these companies are partners in the twine combine, (one company at last has sent out a circular justifying the twine trust,) and if this is found to be the case farmers ought by all legitimate means in their power to discourage the purchase of machines made by the company or companies aiding or abetting this binder twine trust.

Will not the alliance investigate this matter and advise the farmers against the purchase of machines made by companies that are aiding the twine trust?

G. W. GLICK.

Farmers' Alliance Notes.

The Jefferson County Alliance meets at Osawatie on Wednesday, July 10.

The alliance, as well as the subscription list of the KANSAS FARMER, is growing in Wilson county.

An alliance is to be organized at school district No. 50 in Atchison county, near Nortonville, on Saturday, July 6, by S. McLallin.

Remember that we supply the *National Economist*, the national organ of the alliance, and the KANSAS FARMER, both papers one year for \$1.75.

The District Alliance of Shawnee, Jefferson and Jackson counties meets at Meriden on July 6. The four question will be the principal topic for consideration.

The Chautauqua County Alliance meets on July 9, and consists of twenty sub-alliances, which celebrate in fitting manner July 4. A county exchange is being discussed and will soon be established.

S. McLallin, Meriden, has been selected by the District Alliance of Shawnee, Jefferson, Jackson and Brown counties to edit and forward their matter for this department. He especially requests each sub-alliance to send in the news promptly to him so that he can compile it and forward to this office by Saturday of each week.

Gossip About Stock.

H. H. Haaff, of Chicago, writes us that many thousands of calves in Kansas have had his "Horn Killer" applied, and not one word of damage has been heard save the single case mentioned in these columns.

If there are any breeders who have any thoroughbred stock for sale this season, we suggest that they advise us of the fact, as we are especially prepared to give reliable breeders an immense benefit. Write for particulars.

Holton Recorder: John Stouse sold to Alex Newman two carloads—thirty-four head—of 4-year-old steers, the average weight of which was 1,740 pounds. The price paid was 4 cents per pound, making the average price per steer \$69.60; total for the two carloads, \$2,366.40. This is perhaps one of the best, if not the best, lot of steers ever shipped from the county. Mr. Newman shipped the steers to Chicago. Mr. Stouse is one of our best cattle-feeders, and one secret of his success is that he has a good warm barn and feeds corn fodder instead of hay for roughness.

Girard Press: Twenty farmers near Beulah have formed a trust known as the "Beulah Beef Combine." H. Brown is President, A. Burns, Secretary, and H. T. Potter, beef dresser. The combine expects to "do up" Armour & Co. The plan is this: One beef is killed each week by one of the "big twenty," and divided into twenty equal parts. Tickets are issued in equal number. Each member of the trust takes the part of the beef bearing the number he drew, and all have fresh beef once a week. It is needless to state that this combine cannot be broken unless one of the officers gets the tough parts every time.

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.

As We View It.

Yonder landscape, regal in its splendor,
Smiling with a look half proud, half tender,
Seems a shrouded corpse when dense fogs
roll.

Life is glorious when the rays of duty
Shine upon it from a loving soul;
But its hills and glades are robbed of beauty
If a selfish mist hangs o'er the whole.
Scorning this great fact, the base man loses
Truth's best diamond, priceless if he knew
it.

Life is good or bad, as each one chooses;
Life is as we view it.

Wanting wealth of heart, the miser's treat
Now too small to purchase lofty pleasure,
Soon will be a death-bed pang, or worse.
Love, contentment, goodness, hopes ethereal,
Make the peasant, slender though his purse,
Vastly richer than the whole material,
Star-illumined, unconscious universe.
Mental wealth, whose very touch entrances,
Boundless lies for all whose minds pursue
it.

Man is rich or poor, just as he fancies;
Wealth is as we view it.

Life's flame, flickering feebly in the strongest,
Ort blown out, is soon burnt at the longest;
Frail as we live, we're nothing in our graves.
Almost awful now, yet daily heightening,
Is our power, that rides the foaming waves,
Weighs the planets, grasps the leaping light-
ning.

Changes fire and air to docile slaves.
Man can humble nature if she dares him,
Set her some hard task and make her do it;
Man is weaker than the steed that bears him;
Power is as we view it.

Knowing not where truth's first step com-
mences,
Since the sages say our very senses
Teach but fictions dark, we live and die.
Priceless thoughts, that time in its long trav-
els

Through past ages gathered, open lie;
Science shows the cipher that unravels
Nature's secrets, writ on earth and sky,
But the wondrous volume spreads before us
Needs eternity to read right through it.
All is darkness! Floods of light float o'er us!
This is as we view it.

One faint gasp, and then the low death rattle!
Thus we end it, beaten in the battle,
Losing all things with our parting breath.
Life has glories, but intensely brighter
Is the glory of a noble death.
When the soul, its load each moment lighter,
Headless now of what the vain world saith,
Seeing visions, pain sublimely scorning,
Feels the icy hand, yet dares to woo it,
Death is starless night, or radiant morning;
Death is as we view it.

—The Academy.

THE TEA TRADE.

Interesting Facts Gathered in the New York Market.

New York tea importers, in order properly to regulate orders sent out to the far east, have to estimate in advance of each season the probable qualities of the teas to be brought forward—estimates evolved from conflicting reports, and also the degree of competition to be looked for from foreign buyers at the Chinese and Japanese ports, as judged by the statistical position of stocks in the London market. The course of each season's sales, too, reported telegraphically by their correspondents in the far east, have to be closely watched. As to supplies, the full quantity required of China and Japan by their foreign buyers is invariably forthcoming.

While all descriptions of tea find sale throughout the United States, the consumption of large proportionate quantities of some specific kind would seem to follow certain parallels of latitude. Thus, north of a line drawn from Albany westward may be found the area in which Japan is chiefly drank, this area including Ohio, Michigan, etc. New York's chief trade is in Oolongs, but Japan appears to be gaining ground.

JAPAN VS. CHINA.

It is not possible to hide from the ultimate purchaser the fact of a chest or half chest having been opened before it came into his possession, if he is duly posted, the thin upper corner of lead having been cut through, and it being found impossible to solder it in the Chinese mode to the rest of the metallic lining. The renalling of the corner, owing to the dryness and hardness of the wood, often results in splitting it. The chest or half chest that has been opened is skillfully bound with split rattan imported for the purpose from the far east, and covered with matting and manilla rope, also specially imported, so as to avert suspicion, so far as exterior appearances go, that the tea has been tampered with.

Japan has continued to maintain a fair reputation for the quality of her teas; Chinese teas, on the other hand, have deteriorated in the course of a series of years; so also East India teas. The falling off in the quality of China leaf is attributed to less careful culture and faulty manipulation. This decline has been a source of vexation to

New York importers, but during the last few seasons an improvement has been manifested due to the representations of American and English buyers to the tea farmers made through native officials and supported by the influence of the Hong.

Sales of tea at auction in New York during two years have amounted in each to about 25,000,000 pounds, approximating to one-half the aggregate importation. There are from twenty to thirty sellers in every sale, each sale usually comprising not less than 10,000 packages. The auction room at No. 129 Water street is a lofty apartment, with two tiers of windows. At the sales, all the individuals on the floor are seated. The sales are remarkably quiet; there is no louding of teas by the auctioneer, who merely announces in advance of the bids the number of chops and invoices as shown in the catalogue, making no extreme efforts to raise the bids, nor is any excitement manifested. Advances on bids are mostly indicated to the auctioneer by acquiescing nods. Even the rustling of the leaves of the catalogue, as these are simultaneously turned over in the progress of the sale, can be distinctly heard. The sale runs its course in a singularly short time.

CUTTING UP THE PROFITS.

The comparatively low figures at which teas in bulk are disposed of at auction as compared with the prices charged at retail, are apt to be regarded by the public as assuring enormous profits to the buyers, which is far from being the case, taking into account the work of dividing and grading cargoes, the loss of interest on capital, with possible deterioration, insurance charges and other items, to all which are to be added the ordinary risks of trade. Tea as a beverage being suggestive of coffee, it may here be incidentally remarked that the raw berry disposed of at auction and at public sale loses at least 17 per cent. in the process of roasting. In the case of consigned teas, often held over for considerable periods under instructions from consignors not to sell at given prices—prices necessarily fixed irrespectively of the course of the market, and which frequently cannot be realized—the change of terms on the part of consignors involving at times long correspondence, very serious deterioration is apt to set in before consent is given to their prices under the hammer.

Whatever the prices thus brought, consignors, as a rule, are better satisfied than if they were disposed of at private sale, even though the presumption is they would have gone off at the latter some shades higher.

In the transaction of business by importers, judgment is passed on the quality of teas offered by means of decoctions in small cups, set out on a round table, a delicate pair of scales occupying the center in which a given quantity of any tea in question is weighed, then deposited in cups, when boiling water from a copper kettle, always in readiness, is poured on them, the cup being almost one-fifth filled. The services of professional tasters are in constant demand. Seated at these tables, experts will pronounce decisive judgments, positive and comparative, on successive infusions submitted to them.—*New York Commercial Advertiser.*

Why Not Rest?

He who has such an absurd idea of the value of time that he takes none of it for rest or quiet thought, is miserly indeed. I sometimes fancy we are fanatics on industry, and wonder why we are in such haste, trying to accomplish the work of twenty years in five. The majority of our people work according to their opportunity, never thinking of their capacity of endurance, toiling until we are physically and mentally exhausted, wearily striving to hoard up wealth as though from this source true happiness were gained. What is the use of working until we are all unnerved, impatient and fretful. It is a crime. Our earthly life is a treasure to be carefully protected. Health is happiness, and we require wisdom to take proper care of it. We ought to value health more than wealth; however the latter we could not honestly reject. But above all we need contented minds to enjoy fully what we have, to appreciate the blessings of to-day. I imagine some enthusiastic housewife reading this article and saying, 'O, well, it's well enough to talk, but how can I rest when there is so much to do?' Indeed you can. Wouldn't your husband and children rather see you cheerful, your eyes bright, your step elastic, and a smile on your face, than to see you so tired and lifeless, scarcely taking time to laugh? And where is the woman so hard-hearted as not to be willing to sacrifice the money her husband is toiling hard to gain (to lavish for unnecessary luxuries) for his good health, contented mind and that cheery, happy face and hearty laugh? I would not for an instant deter

ambition, only as far as it prevents enjoyment of what we already have. For what is more detestable than an indolent person "sponging" from a thrifty friend? We should be contented with our lot when we are comfortable, and not be striving to gain the world, for "the more we get the more we want," and the sooner we decide to rest, the better. If we possess health, a contented mind and a comfortable home, we have reached the goal we would gain, the elysium of perfect content we would win.

SUNFLOWER

Wakarusa, Shawnee Co., Kas.

The Waste of Nerve Force.

Undoubtedly at no period of the world's history has the physical system of man had greater burdens imposed upon it than during the present generation. The pioneers in the settlement of this country had nature to subdue, its forests to root up, its soil to bring under cultivation, and its wild beasts to destroy; other generations have had gigantic wars to carry on; but these labors required mainly an expenditure of physical strength which, within certain limits, is easily maintained. The invention of machinery in almost every conceivable form has lessened the draught upon bodily strength, but many developments of modern life have imposed the severest strain upon the nervous system. The constant excitement amid which we live, the incessant activity and energy which the ruthless competition of business imposes upon every one who would succeed, the noise and senselessness of cities, the haste, the worry and the monotony of daily life, added to the thousand vexatious details which enter into every business man's experience are comparatively new elements in human life, under the strain of which an increasing number of men break down every year, and which constitute a burden which none of us find it easy to bear. Increasing insanity, premature deaths, the early loss of the signs of youth, and a rapidly enlarging list of nervous disorders, are certain indications that this generation finds it difficult to adapt itself to its environment, and that it is not engaging in pursuits and methods of living unknown to its predecessors without paying heavy penalties. From the ranks of every profession, from every department of business, and perhaps still more from women and children, come warnings, while fretfulness, irritability and silent misery in thousands of homes, bear witness to the heavy strain that human nature is now compelled to undergo.

Under such circumstances it becomes necessary to give a wider publicity to the caution which medical science is all the time giving in private, but in too many cases only after fatal consequences have been incurred. The facts seem to indicate clearly that the physical system can meet all the lawful demands of modern life, but that it can not endure very much yielding to those unlawful demands which man has heretofore allowed himself under the name of pleasures, but which moralists have called by the much less attractive name of sin. The lessons of morality, temperance, good nature and recreation are being taught to this generation as they had never been taught before, under the penalties of insanity, an innumerable number of nervous disorders or early death if the lessons are not learned. The amount of lawful work which a healthy man can do is beyond calculation. Up to a certain point work, whether mental or physical, simply increases one's power. Especially may the mental faculties continue to improve in quality far beyond any assignable limits in any case, and in point of time beyond the three score and ten once marked as the limit of human enjoyment. Overwork seldom injures any one. This is only the excuse we make to others, or by which we blind ourselves to our own follies, or vices, or self-neglect. The real cause of disaster is our narrow range of pursuit, our intemperance in eating and drinking, our lack of timely recreation, our yielding to anxiety or ill-temper. All these things are to the nervous system what friction is in the running of machinery—a tax upon power and a needless waste of strength. Let the man who would live long and see his business prosper reduce his friction to a minimum; let him avoid a wearying monotony by widening his range, by interesting himself in leisure moments in some of the many thousand delightful fields of investigation which earth affords, its science, literature, art or music; let him keep his body pure, so that his tastes, sensibilities and imagination may be unimpaired; let him avoid worry, learning, after having done his utmost, to live by faith in the Providence that watches over human life. In such manner of life there is no danger of premature decay of any power. What the possible degree of human endurance is can

be seen in such a man as Lord Palmerston, who said that an Englishman should be in his prime at 80, in the case of Mr. Gladstone, in Charles Darwin, who, restricted by ill-health, performed an amount of labor which would have broken down a man of narrower range.

All the nervous disorders which are so frequent nowadays are the just penalties of ill-adjustment. It may be taken for granted that the present development of civilization was designed, that the physical system is abundantly able to meet all its just requirements, but it was also intended that man should not waste his nerve forces by subjecting them to needless strain, by indulging in ill-temper, anxiety, dissipation, or by confining himself, like a slave, to a restricted sphere. The man who, in an age like this, understands but one subject, and loves but one thing, ought to break down. Some incurable and increasing nervous disorder falling upon him is nature's proclamation that he is weighed in the balance and found wanting. He has made a slave of himself when he might have been free, has pursued pleasure at the expense of morality, or wealth at the cost of wisdom. The women also who are irritable, physically weak or broken down, when the women of a century ago were strong, patient and not less lovable, must painfully lay at heart the same lesson. They have not wisely husbanded the resources of nature; they have worshiped the wrong idols or have failed to seek the varied relief which is so lavishly offered in these days. Doubtless many of us pay the penalties of our fathers' transgressions, but we drag an increasing chain mainly on account of our own want of wisdom.—*Providence Journal.*

For Keeping Meat Without Ice.

Vinegar takes the place of ice. Prepare a marinade in this way: Simmer for twenty minutes in a pint of water two or three bay leaves, a bunch of parsley and lemon thyme, an onion, three cloves, a teaspoonful each of whole allspice and whole black pepper, and a small piece of ginger; add a teaspoonful of brown sugar and two teaspoonfuls of vinegar. Stir until the sugar is dissolved and the marinade at boiling point. Pour into a shallow pan that will just hold your meat. The above quantity is for a shoulder of mutton. When it is cold put the mutton in it. For a larger piece of meat increase the quantity of marinade. It is not to float about in it, remember, but the meat must be turned and basted with the pickle every day. If you have the shoulder boned beforehand it will keep better. Three or four days will be perfectly safe, but you must keep a piece of musquito netting or tarlatan over the dish to make it secure from flies. The same marinade can be used two or three times if you reboil and skim it every time. Stuff the shoulder of mutton with bread or potato filling, bind it with a string, roast and baste until brown. Serve with plum sauce—not preserved, but stewed dried plums.—*Philadelphia Ledger.*

Sirup for Preserving Fruit.

Preserves put up in self-sealing glass jars need not be made as sweet as with the old methods. Three quarters of a pound of sugar to a pound of fruit is now the usual rule in preserving in hermetically-sealed jars of cans. Not a few people find half a pound of sugar to a pound of fruit more agreeable in the case of the less tart varieties. In making the sirup for preserves allow half a pint of water to each pound of sugar. Put over the fire in a white porcelain saucepan, and before the sirup becomes hot stir well into it the white of an egg partly beaten up. When it begins to boil remove the scum, and let it boil till scum no more rises, then put in the fruit and boil gently.

RASPBERRY PYRAMID.—Put one-half pint of rice (scant) in one quart of boiling water, salted; boil with the lid off for twenty minutes; do not stir it. When the grains are soft and dry, spread on a large dinner plate a layer of the rice, cover this with a layer of raspberry preserve or jam and build up a pyramid of alternate layers, pressing all into shape with a bowl. It makes a richer dish to put a pint of milk to the same of water for the boiling, or to add so much milk to the rice as the pint of water boils away.

"They rested there—escaped awhile
From cares which wear the life away,
To eat the lotus of the Nile
And drink the poppies of Cathay."

And every American business man is beginning to find that his summer vacation is more and more of a necessity; the money-making machine won't stand the strain without an occasional rest. The "American Alps" of Colorado offer the highest conditions for perfect relaxation, pure vital air, comfortable hotels and the noblest scenery in the country, and may be reached on the South Park Division of the Union Pacific railway.

The Young Folks.

Green Things Growing.

Oh, the green things growing, the green things growing,
The faint sweet smell of the green things growing!
I should like to live, whether I smile or grieve,
Just to watch the happy life of my green things growing.

Oh, the fluttering and the pattering of those green things growing!
How they talk each to each, when none of us are knowing;
In the wonderful white of the weird moonlight
Or the dim, dreary dawn, when the cooaks are crowing.

I love, I love them so—my green things growing!
And I think that they love me, without false showing;
For by many a tender touch they comfort me so much,
With the soft, mute comfort of green things growing.

And in the rich store of their blossoms glowing,
Ten for one I take they're on me bestowing;
Oh, I should like to see, if God's will it may be,
Many, many a summer of my green things growing!

But if I must be gathered for, the angel's sowing,
Sleep out of sight awhile, like green things growing,
Though dust to dust return, I think I'll scarcely mourn
If I may change into green things growing!

Wanted.

A hat for the head of a fountain,
A glove for the hand of fate,
A shoe for the foot of a mountain,
A link from the chain of debate.

A spoke from the wheel of fortune,
A chip from the "pole" of the south,
A drink from the fountain of knowledge,
A word from the river's mouth.

A drink from the cup of sorrow,
A look from the face of the storm,
A stroke from the arm of justice,
A ring for the finger of scorn.

A knock at the door of repentance,
A throb from the ocean's heart,
A glance from the eye of a needle,
From Cupid's bow a dart.

—Boston Gazette.

THE AGENT'S STORY.

It was a hot afternoon—some of you may know how hot it can be on the prairie when there is no wind.

I was sitting in the little ticket office of the railroad station at which I was agent. From the window I could see the hot air rising from the sunburned buffalo grass, giving to the lonely ranch buildings scattered here and there in the distance an unstable, wavering appearance, as though they might at any moment blow away.

Presently out of the silence there came the footfalls of a horse's hoofs, stopping at the platform, and followed by a queer "pegging" sound over the planks and into the waiting-room. I looked up and saw a boy of about 14 standing in the doorway. His right leg was amputated above the knee, and he supported himself on a pair of light crutches, which had sling straps like an army carbine.

He handed me an express order for a package to Col. Reed, a prominent cattleman, whose ranch buildings were about a mile south of the track.

"Are you the Colonel's son?" I asked as I handed out the package.

"Yes sir," was the reply. "Charles Reed is my name."

Then he turned and looked curiously in at the telegraphic instruments. He had such a bright, healthy and wide-awake air, that I invited him to walk in and examine them, if he wished.

His eyes brightened immediately.
"I'd like to, if you don't mind. The other agent was cross, and I was afraid to ask him."

Seeing that he was interested in them, I explained briefly the working of the key and sounder, and tried to give him some idea how a message was sent and received. He listened attentively and seemed to comprehend pretty well.

"Yes," he said, as I concluded, "I know something about it, though only through what I have read. Would you mind writing out the alphabet for me?"

I wrote out the characters on a slip of paper, which he tucked carefully away in his pocketbook, and then, finding I was a stranger to that part of the West, he volunteered some information about the country, including a remarkably accurate description of the game birds and their habits, which, as a sportsman, I found very interesting. Before he left he told me that he had lost his leg during an Indian raid about four years ago, before the railroad was built. His father's ranch had been attacked without any warning. He was only 10 years old at the time, and being out-of-doors, he had slipped away unobserved, and hidden in the corral, and while there was hit by a stray rifle ball in the knee.

I accompanied him to the door when he was ready to go, and was surprised to see how thoroughly at home he was on his pony. With his crutches slung behind him, he swung nimbly into the saddle, and started off toward home on a brisk gallop.

One afternoon, about a week later, he dropped in again, having meanwhile learned the telegraphic alphabet so that he could

peat all the characters easily, and next day the Colonel himself stopped in on his way to town. He was a brisk, genial man, who had a habit of shaking hands with every one. He was a typical frontier ranchman.

"See here, Mr. Agent," he said, "that boy of mine has a hankering to learn your business. He's kind of lonesome, you see—he can't play with the other boys on account of his leg—and now if you don't mind havin' him around, and will teach him what you can—he's pretty bright, and can learn most anything—why, I'll make it worth your while. What's your charge?"

"Why, Colonel," I replied, laughing at his business-like manner, "I shall be glad to have him around—I am lonesome here—so we won't draw up any contract."

Charles was an apt pupil. In about a month he could send and receive a message, though of course not very rapidly. His father was so delighted with his progress that he made me a present of a riding pony; and shortly after, when Charles got it into his head that it would be a fine thing to have a private line from the ranch to the station, the Colonel had me order two instruments and a coil of wire from Chicago.

Under my direction the cowboys put it up, and though it wasn't stretched very tight, and the poles were only fence posts spliced together, it worked as well as the main line. The instrument on my end of the line I did not care to have in the office, for fear that officious gentlemen, the linemen, would object, and so I set it up one side of the big, empty freight room.

The autumn was now well advanced, and I found that my duties, instead of increasing, grew lighter. There were but two freight trains every other day, and the daily mail and express, east and west, went through between the hours of 1 and 4 in the morning, so that I had a great deal of time on my hands. I spent much of it shooting chickens with Charles—he was an excellent shot from the saddle, though he told me had a time of it training his pony to stand fire—and the rest of the time I either read or rode out over the trails in the delicious Indian summer weather.

One night, about the middle of October, we had a terrific thunder and wind storm, with a blinding fall of rain and hail. It came up after the west-bound train had left, and about an hour before the eastern train was due. I was awakened by the noise, and got up to look out. The rain was falling in torrents, and the wind shook the building, while the lightning flashed incessantly.

I was still looking out, watching the furious storm, when an unusually bright flash revealed for an instant the figures of a group of horsemen loping across the prairie toward the station. I stood still to catch another glimpse of them, if possible, but without success; they had probably turned off to the left.

Shortly afterward I heard them at the other end of the building, where they stopped, I supposed, to seek shelter from the storm; or possibly they were going to take the train. It was not unusual for passengers to come around an hour before train time, so I thought little of it at the time.

However, before I left the window, I heard them tramping around the platform to the door, and drawing back to one side, I waited to see them pass. Between trains I always kept a lamp burning, but turned down low and it shone out now through the window; and as the men stepped into the faint bar of light, I got quite a distinct view of them.

They were all heavily built. Each one wore a yellow "slicker" coat and had his slouch hat pulled down close to keep off the rain, and around each one's face, just below the eyes, was tied a red "harvester's" handkerchief. This struck me as unusual, and I was puzzled for a moment until it occurred to me that perhaps they were worn as a protection against the hail.

A moment later they were pounding at the door for admittance. Now, as a rule, I did not like to admit any one so long before train time. I sometimes had express money packages on hand, with no safe to put them in. I once carried a package of \$2,000 in my pocket three days before the owner called for it, and so I was somewhat apprehensive at times for my safety.

That night, however, I had only a few dollars of my own and an almost empty mail pouch, but before opening the door, I sang out, "Who's there and what do you want?" "Passengers for the train," came the answer. "We're all wet, an' want to get in out o' the rain."

I unlocked the door and they crowded into the room. In the brighter light indoors the handkerchiefs that concealed their faces looked so much like an attempt at disguise—and a pretty good one at that—that for a moment I was startled, and made a hasty step toward the ticket office. Before I could take another, however, one of the men struck me with his fist, and though the blow was not a hard one it was so unexpected that it knocked me completely off my feet. Then two of them seized me while I was down, turned me on my face and held me, while the others bound my hands firmly behind me. They next bound my feet, and then rolled me over again on my back.

"Now, my chicken," said one, who appeared to be the leader, "we ain't got nothin' agin you an' won't hurt you as long as you keep quiet; but sure as you yell or make a noise, there'll be some shootin'."

They seemed to be familiar with the office and its surroundings and probably had been there before. Two of them picked me up and carried me toward the freight room, while another went ahead with the lamp and opened the door. Here they looked around for a moment, then laid me down against the side of the building, with an old coat under my head for a pillow, and bidding me keep "mum," returned to the waiting-room.

Thus left alone in the dark I began to think and pretty fast, too, for I was thoroughly excited.

Their scheme was evident enough—to waylay the train there and rob the express and mail cars. The express messenger always had money in the safe on the east run,

and not infrequently gold bullion from the mines further west, so, in case they were successful, they would secure a large sum. There had been several like attempts throughout the country lately, and I felt sure that this was their object.

By taking the train men by surprise they might easily overpower them, then separating the mail and express cars from the rest of the train, run them a mile or two further east with the engine and plunder them at their leisure. This plan had been successfully carried out on another road a short time before, and there was no reason why it should not be again successful, unless in some manner I could prevent it.

I tried to loosen my hands, but they were tied too securely—so tightly that the cords almost cut the flesh. Then I reflected that even I were loose, I should be unable to get out and flag the train, for both freight doors were padlocked and the key was in the ticket office drawer.

About this time the door leading to the waiting-room was opened and one of the roughs looked in.

"Say, young feller, are you alive yet?" he asked.

"Yes," I responded.

"Well, we want to know if there's anything you've got to do to this here telegraph machine so they won't suspect nothin'—any report to make?"

This was pretty cool, and for a moment I thought I might still have an opportunity to warn the dispatcher, and was on the point of saying "Yes" when another voice cut me short.

"You let him get his claws on that machine an' he'll have 'em stop the train. Don't be a fool; come out an' shut the door."

The door slammed and once more I was left in the dark.

I was now beginning to suffer from my constrained position and the cutting of the cords, so I began to cast about me for relief; and then suddenly I remembered a reaper blade that had been left at the station a few days ago by the express. It was loose from the board and I had placed it in a corner so that no one could be hurt by it accidentally. Accordingly I rolled over and over until my feet touched the opposite wall, and then sitting up with my back toward the corner, I felt for the blade with my hands.

To my great satisfaction I found it, got the cord across one of the teeth and carefully sawed it back and forth.

In a moment my hands were free and then I loosened my feet. I then took off my shoes. This done I was able to move about without making any noise.

Still I was unable to accomplish anything, for it was impossible to get out, and I was on the point of composing myself in my old position, to avoid another knock-down, should the roughs look in, when a slight "spiz-z-z," followed by a bright sparkle, attracted my attention to the south side of the room. It was the instrument on the private line, affected by the lightning—a common occurrence in all offices during thunder storms.

I stepped up to it quickly and tried the circuit. It was all right, though the rain made such a noise on the roof that I could hardly hear the sounder. It was not probable that I could get an answer from Charles at that time of night, but as my only resource it was worth trying. So I started in, making his call, "Ca."

"C-h-c-h-c-h!" I rattled; and presently, to my surprise, the circuit was opened and the response came:

"I-i-c-h."

Then I "talked" to him—in my excitement a great deal faster than he could take, and he interrupted me with "slower."

"I-i," I said, "call your father."

"Not home," came the answer; "all hands gone out to round-up a bunch of cattle stampeded by the storm."

"I-i-i-i-i-i," I answered, stopping to reflect. Then I went ahead again:

"Can you ride over to the west cut and signal the train to stop?"

"Yes; what for?"

"Get a lantern and put a piece of thin red flannel around it if you can. Swing it across the track when you see the headlight and keep it up till they stop. Tell conductor there are eight men here waiting to rob his train. Be quick about it."

"O. K. By George!" This last by way of expressing his surprise, I suppose, and then the ticking stopped.

I now began to feel that the roughs would be foiled, though of course it all depended on Charles. But it was something that just suited his nature. I could imagine him on his pony, lantern in hand, tearing across the prairie as though a band of Comanches was after him.

Meanwhile I thought it best to take my old position against the wall, to avoid any suspicion, should the robbers grow inquisitive. So I lay there and waited and waited—the time seemed fairly to drag along—until I felt certain that the train was due. But it did not come, though the movements of the roughs convinced me that I had guessed aright—it was probably a little overdue by this time and they were getting restless. Presently one of them opened the door and looked in.

"Say, operator, is that train on time?" he asked.

"Yes," I replied, "they were on time the last I heard them reported—about 2 o'clock."

He retired again, and for about ten minutes all was still. Then above the noise of the storm a far-away whistle sounded faintly. Next there was a hurried movement in the outer room—the roughs were crowding out upon the platform.

I sprang to my feet and stood against the side of the building next the track, and by putting my ear against the boards I could hear the distant rumble of the train, now fast nearing the station. I tried to imagine where the roughs had placed themselves. Probably around the corner of the building, ready to rush out, revolvers in hand.

The train was now quite near, and presently it drew up to the station with a rumble and roar and hissing of air brakes. Almost instantly I heard the shouted command,

"Hands up!" followed by the reports of four or five revolvers and the sound of scuffling on the planks, which, however, was soon ended, and then a veritable babel of voices and the noise of many feet on the platform.

I dashed out through the waiting-room to see how things had gone and soon found the conductor.

"Hallo, Leith, is that you? We have prevented that robbery this time, thanks to your warning. I borrowed half a dozen revolvers from the passengers and called for volunteers, so when we pulled in there were twelve men on the platforms ready for business. We've got the robbers in the baggage car—come along and see 'em."

They were a hard-looking set of men. Two of them lay on the floor wounded, though not seriously.

About this time Charles made his appearance on his crutches, clad only in a pair of trousers and a red flannel shirt, one sleeve of which he had torn off to draw over the lantern. He was wet through, his hat was gone, and altogether he looked so forlorn that the passengers, who were profuse in their sympathy and praise, began to make up a purse for him.

After the train had left, I found him in the waiting-room and here we discussed the affair, and tried to think how much we should charge the express company for the use of our private line. A few days later, more as a joke than anything else, we sent in a bill for \$50, which was paid promptly, with many thanks for what they called our "prompt action."—George Leith, in *Youth's Companion*.

Summer Tourist Rates.

Round-trip tickets, at reduced rates, are now on sale, via the Santa Fe Route, to Denver, Colorado Springs, Pueblo and Trinidad, Colorado and Las Vegas Hot Springs, New Mexico. Holders of tourist tickets can purchase, at reduced rates, round-trip tickets from junction points in Colorado to all mountain resorts reached by the Denver & Rio Grande, Colorado Midland and Union Pacific railways in Colorado. Tickets to Colorado are good going 30 days; returning, 5 days; final limit, October 31, 1889. Tickets to Las Vegas Hot Springs, N. M., are good going 30 days; returning, 30 days; final limit, 90 days from date of sale. Two daily trains, with through Pullman Sleepers, to above points. For rates, tickets and sleeping-car berths, call on nearest Santa Fe Route ticket agent.

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Europe is all very well, but don't you think it is only fair as an American to know your own country thoroughly? Try the "American Alps" on the South Park Division of the Union Pacific in Colorado this summer. There's nothing like them in Switzerland.

"For peculiarly soft yet penetrating shades of color, marvelous grouping in form, fantastic, solemn and tender shaping of rugged cliff and mountain and valley," says a distinguished artist, "the wonderful empire of Colorado stands peerless." The Alpine scenery along the line of the South Park Division of the Union Pacific in Colorado is the most magnificent in the United States.

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To insure prompt publication of an advertisement, send the cash with the order, however monthly or quarterly payments may be arranged by parties who are well known to the publishers or when acceptable references are given.
All advertising intended for the current week should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free during the publication of the advertisement.
Address all orders.
KANSAS FARMER CO., Topeka, Kas.

Forest fires are raging in portions of Montana.

The KANSAS FARMER will be sent on trial thirteen weeks to new subscribers for 25 cents.

The first car of Dickinson county's wheat crop of 1889 was sent out by the citizens of Abilene, billed directly to Johnstown, where it will be distributed.

Implement men tell us they are not able to keep even with their orders, so great is the demand. This is true especially as to haystackers and threshing machines.

In the settlement of the Wabash railroad affairs Judge Gresham allowed the receiver \$25,000 a year and the attorneys each \$12,000. And the people paid the money.

A letter from Ford county conveys encouraging news concerning the crops. One farmer threshed the wheat of sixty five acres and the yield was twenty-five bushels per acre.

The reading of essays, singing of songs, recitation of memorized writing, and the delivery of original speeches by Indian students is an odd proceeding but that is what they are doing at the Indian schools. Some day we will all be "white folks."

The Atchison, Topeka & Santa Fe railroad company is arranging to apply the Wichita decision to all points on its lines, and this without any special request from the Commissioners or other bodies or persons. A most sensible move. The Santa Fe is always first among railroads to accommodate itself to a recognized need among the people.

The decision of the State Board of Railroad Commissioners concerning freight rates to and from Wichita moved a number of towns to send representatives to a meeting in Topeka last week, where and when the Manufacturers, Jobbers' and Shippers' Association of the State of Kansas was formed. The object is to see that the Wichita rule is applied to every city in the State.

The taxable property of Topeka increased \$729,000 in the last year. The returns from the assessors show that the total taxable valuation of the city is \$9,228,888, of the county \$7,812,741, making a total in the county of \$17,041,579. The total number of acres of land taxable in the county on March 1, was 343,038; the aggregate value of all town lots in the city is \$6,165,055, and in the county (outside of the city) \$1,726,025; the aggregate value of all taxable personal property in the city is \$2,709,620 and in the county \$532,310; the aggregate value of railroad property in the city is \$354,163.60; in the county \$848,151.20.

WHAT IS PROTECTION?

Many persons have become so blinded by party feeling that they are not willing to listen patiently and to consider studiously a discourse favoring the principle of protection; they at once declare the speaker an interested person trying to maintain a party, when in fact there are men in all the parties, Republican, Democrat, Labor and Prohibition, who advocate protection. We ask a careful and candid consideration of the following views which are the result of convictions that are found on study and personal investigation wholly independent of party influences.

Let us first state what is not protection, and here we request the reader not to stop at these initial propositions and to begin to debate the matter in his own mind; read them, remember them until the end of the article is reached, and then, if you do not agree with us you will at least be ready to admit that our opinions are not copied from any of the party platforms.

Protection is not—

(a) The laying of duties on all foreign commodities which are imported into this country.

(b) It is not the laying of duties indiscriminately on foreign manufactured articles which are imported into this country.

(c) It is not the laying of duties on any foreign-made articles the like of which are not and cannot be produced in this country at all or in sufficient amounts to supply the home market or to affect prices to consumers.

(d) It is not always nor in all cases a tax either direct or indirect on the consumer.

(e) It is not a proceeding to enrich individuals of one class of citizens at the expense of individuals in other classes.

(f) It is not a scheme to create or foster monopolies or to parcel out benefits to certain favored persons.

What, then, is protection? It is the raising of revenue for government use by such an adjustment of duties laid on imported articles which compete with like articles produced in this country as will afford reasonable protection to our own producers against the foreign competition. The object of protection is twofold—(1) establishment of national industries by diversifying the employments of the people; and (2) to save to our own citizens as much as possible of the work which is to be done in supplying our home demands without destroying foreign commerce.

Now let us go a little more into details, taking up first our negative propositions. Protection does not require the laying of duties on all imported articles, for there would be no protection to our own people in making them pay taxes on coffee, tea, spices, or any other article which is not produced here. A duty on such article would be a tax on ourselves, to the extent of the duty, as much so as the excise taxes on liquors and tobacco.

Nor does it require that duties be laid indiscriminately on all foreign manufactured articles, because in some lines of manufacture the foreign article is demanded in our markets, and is superior in every way to anything of the kind we make. This applies to fine laces, embroideries, certain classes of glassware, delicate implements of fine steel, and some other classes of articles.

Nor does it require the laying of duties on any foreign-made article the like of which we do produce but not in sufficient amount to supply the home demand or affect prices to consumers. This applies specially to sugar. We make sugar, good sugar, and in large quantities, yet where we produce one pound of sugar we import ten pounds. We do not, and at present we cannot, supply more than about one pound in eleven of what we use. It would require 5,000 factories of capacity equal to the works at Fort Scott (400,000 pounds annually) to make as much sugar as we now import from other countries. That would be equivalent to two such fac-

ories in every county in the United States, or fifty in every county in Kansas. The duty on foreign sugar is now nearly \$60,000,000, and it is nearly if not quite all paid by the consumers, because our home production is not large enough to affect the price. Our people would be much better protected if foreign sugar were admitted free. By paying a bounty on home made sugar equal to the present duty on the foreign article, the people would save more than \$50,000,000 on present rates of consumption. And we are using more every year. Two cents a pound would be a saving of three to four pounds of sugar in every dollar's worth.

Protection is not always nor in all cases a tax on the consumer. This applies to agricultural implements of all kinds, to farm machinery in general, to furniture, to most articles of heavy hardware, stoves, shovels, files, axes, saws, screws, builders' tools, to tin ware, some classes of glass ware and table ware, shoes, plain cotton goods, cheap ready-made clothing, and many other articles; and in the Western States it applies to coal, salt, lumber, railroad iron and steel rails, heavy tools, heavy hardware generally. The duty on wood and iron and cotton and glass and tin does not cost Americans a cent on any of the articles above enumerated, as any person can ascertain for himself by obtaining price lists.

It is not a proceeding to enrich a few citizens at the expense of the many. The object and the effect are altogether different from that. That a few manufacturers have grown wealthy is no more true than that many more have failed utterly. The establishments which were running last year did not clear a profit of more than 6 per cent. on the average. Manufacturing in general is no more profitable than other departments of industry, no more profitable than farming, taking the years as they come and go.

It is not a scheme to create or foster monopolies. Manufacturing is as free as farming. To make manufacturing profitable requires large investments because profit margins on units are very small, as an eighth of a cent a pound on sugar, a sixteenth of a cent on a yard of cloth, etc. That manufacturers combine and form strong associations is no more true in protection countries than where free trade prevails. Such combinations are not affected one way or another by tariff laws. They are money-saving and money-making schemes, made up without considering whether tariff duties are helps or hindrances.

Coming again to what protection is, let it be remembered that the primary object is government revenue. If government expenses were paid by taxes levied directly on the property of the people, as State and county expenses are paid, there would be no need of tariff duties on foreign goods imported. Large sums of money are needed every year to pay salaries of the President, Congressmen, Judges, Ambassadors, postmasters, attorneys, and others, and for pensions, for the army and navy, for Indian annuities, and many other purposes. The ordinary expenses of the government now amount to about \$250,000,000 annually, and this, with interest on the public debt and payments on the principal and other extraordinary expenses, requires about \$500,000,000. To raise this amount by direct taxation would require a levy of 2 per cent. on all the taxable property of the country. The share of Kansas would be about \$7,500,000. The people long ago determined to raise government revenue from duties on imports and not by direct taxation, except when the customs receipts do not furnish as much as is needed. That has been the custom ever since our national government was established.

At this point the principle of protection comes in. We will have revenue from customs duties, that is settled; we can have revenue only or we can have revenue and protection. Which

shall it be? If revenue only, then the correct practice would be to lay duties on coffee, tea, spices, fruits, fibers, and other articles either natural or manufactured products not common in this country, for that would be just, distributing the burden of the tax among the people only who use them. But if we would have protection with revenue, then the correct practice would be to let the above enumerated articles come in free of duty, letting the people have them at cost and carriage, and lay duties only on such productions of nature or art as compete with what our own people produce in considerable quantities, as grain, wool, live stock, eggs, etc., and such manufactures as our people can and do produce in large quantities from native raw materials, as flour, cheese, butter, hardware, machinery, implements, furniture, cloth clothing, etc.

The advantages of protection lie in two directions, economy and labor. To illustrate, let us select two articles—coffee and wool. A certain amount of revenue is to be raised, and it requires—say a duty of 10 cents a pound on each. We do not produce a pound of coffee in this country, and for that reason we have no means of affecting the price of coffee; we must pay the price fixed in a market supplied wholly by a foreign article, and the price in every instance includes the duty—10 cents a pound. If the price of coffee free would be 20 cents, with the duty added it is 30 cents, and the extra 10 cents follows every pound of coffee through all middle hands to the final purchaser who has no recourse on anybody else because he consumes it, and there the tax is finally paid.

As to wool, we do produce a great deal. Until within a few years last passed our farmers, during a long period, produced 70 to 75 per cent. of all the wool used in the country. That affects prices. Of every four pounds of wool we use, foreigners furnish only one pound. Their one pound against our three gives us the advantage in market, because ours and not theirs rules the market. If their supply were dropped out suddenly, the rise of our wool market would not be more than 25 per cent., because we supply 75 per cent. of the whole demand; but if our supply were dropped out suddenly, the market for foreign wool would rise at least 75 per cent. because they only supply one-fourth of the whole amount needed. Thus it is evident that with both sources of supply open we furnish three-fourths and they one-fourth, the price of wool does not include all of the 10 cents duty. If free wool would be worth 20 cents a pound, the market price would be about 22½ to 25 cents a pound, the foreigner losing the difference between that and 30 cents, the American gaining the difference between that and 20 cents. The same rule applies in all cases with greater or less force as we do or do not produce a competing article in large quantities. This is the economic line—our people save money by the operation.

On the labor line, take the same illustration. By taxing coffee we do not give an hour's work to any American, because coffee is not raised here at all. But by taxing foreign wool we encourage wool-growing among our own people which not only gives additional employment and profit to farmers, but it throws large quantities of home-grown wool on the market for our own mechanics to work up into yarn and cloth, inducing the investment of home capital and affording employment to our own citizens. In addition to these advantages, the policy of protection stimulates to invention, to competition and to enterprise in every mechanical direction, so that in the course of a few years the price is reduced to consumers. We need not cite instances to prove this, for every person past middle age knows that prices of all our home manufactures except sugar have been greatly reduced since we became a manufacturing people.

We will not pursue the subject fur-

ther. The principles we have presented apply all through the many phases of this interesting subject, and these illustrations show that there is no partisan sentiment about it. It is only a question as to whether we shall pay all our government revenue ourselves while allowing foreigners free access to our markets, or whether we shall require foreigners to pay part of our taxes for the privilege of helping to supply our markets. Please remember that levying taxes on only such foreign articles as do not compete with like articles here, is no restraint of trade for the reason that the duty or tax advanced by the importer is simply added to the price he is willing to sell for; the wholesale dealer pays the tax to the importer, and the jobber and the local merchant pays the wholesale dealer, and at last the consumer pays it over the counter of the retail merchant. But, as we have seen, as to articles which we produce largely ourselves, the foreigner pays part or all of the duty according to whether we only partially supply the market as in the case of wool, or wholly supply it, as in the case of wheat and agricultural implements.

THE NATION'S BIRTHDAY.

To-morrow the people will meet in a thousand places, and march and sing and pray and speak under the star-spangled banner, giving evidence of a patriotic devotion to the institutions of our country. The American is loyal to the core. He knows there is no country under the sun where there is so much of genuine liberty as there is here, no country where there is so much room for work and progress.

The KANSAS FARMER congratulates the people on the continued prosperity of the country, though many of us could easily bear a greater strain in that direction. The changes of a hundred years have carried us far away from the moorings of the republic at its birth, and changes continue. Let us pray that the orations, songs and prayers on this patriotic occasion may be trained to the demand for still more of liberty, a larger freedom, a more equitable distribution of conceded rights, more legislation in the common interest, and a sterner administration of justice among the people.

CHANGES IN THE MAKE-UP OF THE KANSAS FARMER.

We have been a long time contemplating a few changes which will be mutually advantageous to our readers and ourselves, and are taking advantage of the "dull season" in newspaper business to effect them. We have the new head and lengthened columns. The next change will be in the use of more small type so as to put more matter in the same space; then will come folding and pasting by machinery so that the paper can be taken from the machine ready to trim and thus be made ready for mailing much sooner than ever before. We expect to enter the fall season with the best equipped and best arranged farm paper in the West.

Those Calves

Mr. Haaff, the dehorner, in a long letter—much too long for publication, defends his "Horn-Killer" against suspicions that it had anything to do with the death of Mr. Stewart's calves. Nobody has yet charged that much. Mr. Stewart did not know but that it might have been a secondary or even a primary cause of the death, and he naturally and properly felt like learning all he could about it, but he has not publicly charged the loss to the horn-killer, so far as we know. It is a fit subject for investigation.

DEALING IN FUTURES IS GAMBLING.

The Supreme court of the United States hold that dealing in futures is gambling. A suit had been instituted by brokers against a customer who had directed them to buy 4,000 bales of "future delivery" cotton, and had in their hands a margin of \$8,000. The market declined, the margin was exhausted, and he was called upon for more funds, which he did not put up. He gave, however, four promissory notes for losses sustained by the firm in carrying his "futures." He refused to pay these notes and the brokers sued.

We quote from the New York Herald's report:

It appeared on the trial that no purchase or delivery of actual cotton was intended or contemplated by either party, it being understood that one was to pay the other the difference between the contract price and the market price at the future time specified. The defendant made the plea that this was a wagering or gambling transaction and therefore illegal, and hence that he was not bound to pay the notes. The United States Circuit court overruled this defense, and judgment was given for the brokers.

The Supreme court reverses this decision. "If this be not a wagering contract," it says, "under the guise of a contract of sale, it would be difficult to imagine one that would be of that character. The mere form of the transaction is of little consequence. If it were the statute against wagers could easily be evaded. The essential inquiry in every case is as to the necessary effect of the contract and the real intention of the parties." The general rule laid down by the court is this:

"A contract for the sale of goods to be delivered on a future day is valid, even though the seller has not the goods, nor any other means of getting them than to go into the market and buy them. But such a contract is only valid where the parties really intend and agree that the goods are to be delivered to the seller and the price to be paid by the buyer. If, under guise of such a contract, the real intent be merely to speculate in the rise or fall of prices, and the goods are not to be delivered, but one party is to pay to the other the difference between the contract price and the market price of the goods at the date fixed for executing the contract, then the whole transaction constitutes nothing more than a wager and is null and void under the statute."

This clear and emphatic exposition by the highest court of the nation ought to leave no room for doubt as to what the law is.

Chinch Bug Cholera.

We have a letter from C. L. Thomas, of Morris county, in relation to the dying of chinch bugs. According to his observation they are dying "by the myriads." They become stupid, turn almost white, their bodies swelling, and after death they are covered with a white mould or fungus. In a long term of experience and observation, nothing of this character was ever witnessed in that region before.

The disease is called by some persons chinch bug cholera. It was observed last year to some extent in Illinois by Prof. Forbes, and in Kansas this year by Prof. Snow, of the State University at Lawrence. Prof. Snow, according to a dispatch a few days ago, has discovered that a contagious disease has recently made its appearance among these insects and is rapidly destroying them. This disease is termed by some entomologists as chinch bug cholera and by others "white fungus," from the fact that the bugs become covered with a sort of white fungus. Nothing is known of its cause or symptoms, but it seems to be doing good work. Prof. Snow stated that he had visited a number of fields in this county, and in many places the ground is almost white with dead bugs. Last year this same disease made its appearance in Illinois and Minnesota and proved very disastrous to the insects there. An entomologist in Minnesota is said to have sent out twenty boxes of dead bugs last season with a view of spreading this disease. Prof. Snow is in receipt of a number of letters from different counties which state that in some fields the disease has made its appearance, and in a few instances the fields are white with dead bugs.

From figures furnished by the Agricultural Department at Washington it appears that in the United States the area under the four principal arable crops—corn, wheat, oats and cotton—increased from 128,000,000 acres in 1879 to 159,000,000 acres in 1888. This represents an expansion in nine years of the area under these crops of 31,000,000 acres, or an extent of land more than equaling the entire area of the three northern New England States. The increase in the area under corn, oats and cotton is greater than the total area of the State of Ohio. This striking result leads the statistician to make the further calculation that if the increase in

all tilled and grass land has been in the same proportion as that in the four crops mentioned, we have now a total area of improved lands in farms of 356,000,000 acres, as compared with 285,000,000 acres in 1879, or an increase almost equal to the total surface area of New England, New York and New Jersey, equaling the entire area of improved land in 1880 in the eleven cotton States, with the addition of Delaware and Maryland.

A New Enterprise.

A company has been formed with a capital of \$250,000 for the purpose of establishing and conducting a weekly journal, having its correspondents and lines of communication thoroughly established throughout Mexico, Central and South America, the West Indies and Brazil, to advocate and champion the cause of American commerce among American states, and to circulate among all classes of manufacturers, merchants, bankers and exporters in this country as well as in South America, and to give the latest and most authentic trade news from the Spanish-American Republics.

The name of the new paper is *Export and Finance*; it will be devoted to the interest of the American manufacturer, merchant, banker and exporter in opening up and extending American trade and commerce with the South American Republics, Brazil and the West Indies. The South American trade now amounts to about \$500,000,000 annually—90 per cent. of which goes to Europe. It will be mailed to subscribers for \$5 a year. Address *Export and Finance Publishing Co.*, 5 Bowling Green, N. Y.

Annual Report of the Kansas Experiment Station.

This is a book of rare merit, one for Kansas people to be proud of. Prof. Shelton has done excellent service in the collection and presentation of the material which occupies the 350 pages of the report. The cuts illustrating the text are particularly helpful. Subjects treated are manure, wheat, corn, forage crops, milk and butter, ensilage, rainfall, hay, sorghum, fertilizers, spraying trees, insects, potatoes, peas, tomatoes, sorghum blight, hackberry knot, germination of weed seeds, fungus parasites of weeds. An edition of 3,000 copies was printed, and most if not quite all of them are already disposed of, so that the best that can be done for new applicants is to place their names and addresses on file for future copies of station bulletins and reports.

By reason of the burning of the Crane publishing establishment last winter the publication of this report was delayed nearly six months. The report was half in type when all of it with the plates were destroyed in that destructive burning. But it looks and reads fresh as it could have done last January.

The Business Situation.

Last week's New York report shows the week was "one of considerable excitement in speculative circles and of heavy general trade without material change in conditions. As all depends in a large measure at this season upon crop prospects, it is most encouraging to find the report in this particular unusually favorable; the only noteworthy exception being that some damage to cotton and grain from frequent rains is reported at Galveston. In the Northwest the grain outlook is particularly fine, great improvement being reported in quarters where there had been some apprehension. With crops of unusual magnitude highly probable, and with a general volume of business so maintained, with the main increase of 30 per cent. over last year, as it appears in clearing house returns, the prospect is not gloomy.

Wheat has advanced 2 cents; corn and oats have declined each a fraction and coffee is still sold at a decline of $\frac{1}{2}$ cent. Pork and its products are all a little stronger. The general average of prices has fallen. The money market has stiffened to some extent here, as is natural after the heavy exports of gold, but the Treasury has paid out during the week about \$3,000,000 more than it has taken in, and there are accounts of continuing receipts. From the interior

there is nowhere observable any actual stringency. Indeed, it is one of the phenomena which most deserve attention that there is generally prevalent a feeling of confident indifference to changes in the money market, apparently based upon the faith that in any event the Treasury will control the situation. Business failures number 215 as compared with 220 last week, and 250 the week previous."

Protection Benefits Farmers.

EDITOR KANSAS FARMER:—The question has been asked, Does protection benefit the farmer? I say yes, to some extent. It brings the consumer closer to the producer. For instance, take 1,000,000 men and women off of the farm and place them in the workshop and you see we have that number less producers and 1,000,000 more consumers here in the United States, making our home demand great. If we to-day would pay to our own home laborers the vast amount of money that we are annually paying to other countries for their labor, you would see a great change in our home market, which is always the most reliable. If our laborers are to work across the ocean, then they may be fed by any other nation that can feed them cheaper than we can. Mr. Brewer says that despite the great inventions in farming machinery by which the cost of production has been greatly lowered, the farmer does not make as much as he did eight or ten years ago or five years ago. Dear sir, did you not know that four years of that time we had a democratic administration, with men in authority advocating and agitating free trade? Ten years ago we had our highest and best protection; then we got much better prices for everything the farmer had to sell. My dear sir, if you will take the pains to look up the history and figures from 1816 to the present time, you will find our best times for the farmer was when protection was the highest. The price of English steel rails in 1867 was \$15 per ton in gold. Now, suppose Missouri, with all of her iron ore, had furnished those steel rails instead of England. I think she would have had less of those Bald Knobbers, would have had more money to pay her sister States for their produce. You see by protection of our home industries we can buy as good rails at home for \$35 or \$38. I believe the tariff on salt is 12 cents per 100 pounds. If Mr. Brewer will come to Hutchinson he can buy all the salt he wants for 12 or 15 cents per hundred, good clean salt by the wagon-load. Who pays the tariff on the salt? The farmer pays only 12 cents per 100 pounds for salt and the tariff is 12 cents. Then you say that it can't be overproduction, as the Creator would never allow such a thing. I think you know just about as much about free trade as you do about the Creator. What kind of a Creator have you? Why does he allow the monopolists and money men to oppress the poor. You ought to notify him of your awful condition. Then you say hogs have gone to 4 cents per hundred. I have sold them for 2 cents net and worked for 50 cents per day on public work under Democratic administration and free trade.

ZENO THORP.

Weather-Orp Bulletin

of the Kansas Weather Service, in co-operation with the United States Signal Service, for the week ending Saturday, June 29, 1889:

Precipitation.—The rainfall is about normal in Rawlins, Cheyenne, Sherman and Wallace, thence extending southeast and increasing in quantity it becomes quite an excess in Scott, Finney, Gray and Ford, and in Comanche, Barber, Harper, Sumner and Sedgwick, curving to the north the normal and excess belt widens from Pawnee to Greenwood, but rapidly contracts on reaching the Smoky Hill river, to Russell and the western parts of Ellsworth and Ottawa, but widens as it approaches the north line. The heaviest rain reported occurred in the contiguous portions of Mitchell, Jewell, Smith and Osborne, and was accompanied by some hail. No rain fell in the eastern tier south of the Kaw, the contiguous portions of Trego, Graham and Sheridan, the north-west part of Stanton and southwest part of Hamilton.

Temperature and Sunshine.—Although there has been more than the usual June sunshine in the eastern counties, yet the temperature is nearly 3 deg. below the normal for the week; the first four days were cool, but the last three days have materially raised the temperature. In the extreme southwest counties the temperature ranged above the normal and in the northwest below. There has been an excess of sunshine in the central counties from east to west, but deficient in Thomas, Scott, Finney and Comanche. But little wind in the eastern division, while the central and west report much high wind.

Results.—The weather this week has proved very favorable to all crops, the absence of rain in the east enabled cultivation to proceed, other portions receiving needed rains. Even in Trego and Gove the observers report "corn making rank growth, also sweet potatoes, in spite of the drouth." Cornstalks nine feet tall were brought into Manhattan. The wheat harvest is nearly over in the south and has commenced in the north counties. Rye is being generally harvested. The oat harvest has begun in the south. The wet weather in Butler interferes with harvest. Peaches and blackberries are ripe in the south. Observers in all parts of the State remark on the smoky atmosphere of the 21st, 22d and 23d.

T. B. JENNINGS,
Signal Corps, Asst. Director.

Horticulture.

Grafting Grape Vines.

Much has been written and various have been the theories and modes of practice advocated by those who have from time to time enlightened the public upon this subject. During the past thirty years I have experimented pretty largely in nearly all the methods I have seen recommended, and though I have had some measure of success in most of them, I have invariably had the best results from grafting in early spring, at the time when the first indications of the moving sap could be discovered and before the swelling of the buds or the great flow of sap had commenced.

I have grafted in the fall; also during mild weather in winter; also late in the spring, after the leaves have partially developed. I have also sometimes grafted successfully during the great flow of sap or bleeding of the vine, but have found none of these periods so favorable as that of the early spring, above indicated.

It is also very necessary to work quickly and accurately, using a very keen, thin-bladed knife, and fitting the graft to the stock with the most perfect precision. Healthy and well-ripened wood for the graft is also indispensable.

The best size for general use is about that of a common lead pencil, though I have often used wood no larger than a knitting-needle. I have found it quite necessary that the graft should be below the ground, or, if this is impracticable, as near the ground as possible, afterwards raising a mound of earth around the graft until a union is formed. A graft may also be inserted in the end of a branch, which can be conveniently layered, burying the grafted portion beneath the surface.

In grafting large stocks it is better to take out a small, thin wedge, beveled in the center and terminating in a point below. Then cut the graft of the same form, a little thicker than the wedge removed, so that when removed it shall fit as accurately as possible. A better fit may be obtained in large stocks if the cleft be opened a little by a thin chisel or similar instrument, which, upon removal after the graft is set in place, allows the stock to close upon it with considerable force.

A ligature of strong bass matting, or in case this is not at hand, of flax or hemp twine, should be bound tightly about the stock and the parts above the graft covered with clay about the consistency of soft putty. Then earth up to the bud upon the graft; and if there is danger of freezing weather, it is well to cover the whole graft with sand or light earth, an inch or two above the bud.

I have found little difference in results, whatever stock was used. I have grafted upon the wild grape of our forests, upon nearly all the older cultivated kinds, and have also, by way of experiment, worked the foreign varieties upon our natives and the natives upon the foreign with equal success. If any difference has occurred worthy of notice it has been against the Clinton as a stock; for I have failed more frequently in my efforts to graft upon that variety than any other.

Sometimes when grafts have been slow and weak in starting, I have found shading from the direct rays of the sun and occasional watering in dry weather beneficial. — *George W. Campbell, in Homestead.*

Lime and Ashes for Fruit Trees.

It is well known that all varieties of fruit do not flourish and mature equally in all sections of the country. This is mainly attributed to climate. Quite frequently a fruit-grower in one part of the Middle States, hearing of the quality of a particular fruit, as grown in another part of the country, has obtained and fruited it. Upon not responding to the pains bestowed upon it by the grower it has been

either counted as a variety unsuited to the climate, or the first grower has been put down as a fraud. In many instances such judgment is erroneous. Had an analysis of the soil in which the particular variety was grown to perfection, accompanied the plant, and the knowledge thus obtained put to practical use, the result would have been very different. Soil, I think, will be found to have more influence upon our plants and trees than climate. The latter has everything to do in hastening or retarding the maturity of plants; but the former influences the life and success of the trees by supplying or denying them the proper food. The value of special manures is thus manifested.

Lime and its phosphates form a component part of all special manures for fruit trees, and many old, worn-out soils have been renewed by judicious application of lime, ashes, etc. In nine cases out of ten, where a variety of fruit which once flourished in a given soil, has ceased to flourish and perfect fine fruit there, the change is due to the fact that the soil has become destitute of the necessary mineral manures. In nearly all such cases the plentiful application of wood ashes, or wood ashes and lime, will restore the healthy condition of the trees. Observations of the effects of the composition of soils within the last two or three years, convince many that much of what was attributed to climate was simply owing to the want of the necessary inorganic or mineral manures in the soil. The special lesson which this should teach us is that, in getting trees, plants and shrubs from another section of the country, they should always be accompanied by an analysis of the soil in which the particular varieties reached perfection. We could then see that the trees were planted in the same kind of soil, and success assured us. Nurserymen would soon get accustomed to these orders, if every farmer insisted upon it in his order, and I think complaints about certain first-class varieties of fruits would not be so general. — *George Wilson, in Farm and Vineyard.*

Clover as a Fertilizer.

In any system of soil improvement, the growing of clover must always have an important part. Though it cannot add directly to the mineral resources of the soil, as it returns only the ash that it has first taken from it, clover does make mineral plant food more available. It enables other crops to range farther in search of food by opening the subsoil, and whether it be through its leaves or by shading the surface, the growing of clover does undoubtedly add directly to the amount of available nitrogen which the soil contains. It is in this respect different from all other crops. Whatever else the farmer grows leaves his soil poorer than before. Clover alone increases its capacity for future crop production.

It has taken farmers a long time to thoroughly learn the nature and extent of the improvement which clover-growing makes. Many still believe that not much benefit is to be got unless the crop of growing clover is turned under as green manure. This method is, however, a wasteful one. The quick fermentation of several tons per acre of clover, including the clover roots, creates an excessive amount of plant food that the succeeding crop cannot utilize. In winter or at other times when the soil is filled with water, all that is soluble of plant food in the soil is liable to be washed away. In some English experiments on heavily manured uncropped soil, it was found that there was a perceptible amount of nitric acid passing off through underdrains. We believe that in these cases the drainage water must have in some way run into the tiles through holes from the surface, rather than first filtering through the soil, as it should. The water of springs, unless these con-

tain mineral solutions, is nearly absolutely pure. It only needs a thin stratum of earth or charcoal to absorb all impurities from water in a filter. In time, of course, this absorbent will become saturated and cease to cleanse water as it should. Occasionally we hear of old wells in cities, near to privies or other sources of contamination, where the soil seems to have been so saturated with impurities that it can no longer act as a filter. But it is incredible that much if any of our richest farming land has been filled with manure to such an extent.

Underdraining is therefore a positive preventive under most circumstances of manurial losses of soluble plant food. But comparatively a small proportion of our farm lands are underdrained, and for all the rest as soon as plant food is made soluble in excess of the immediate needs of growing crops, then a large part of it is sure to be wasted and lost. If floods wash the surface into streams and rivers, and thence to the sea, the waters carry away with them not only soil, but the more valuable soluble plant food that it contains. If in spring the saturated soil then evaporates from its surface the moisture, with it also goes more or less of ammonia that should be retained for growing crops. It is therefore evident that not only manuring with stable manure, but plowing under clover, are more or less wasteful on wet land not underdrained. We do not say these methods should not be adapted under these unfavorable circumstances. There is some waste under almost all conditions, and if a farmer is not able to do the absolute best, he ought yet to do the best he can.

Clover is itself to some extent a means of draining wet land. If the excess of moisture is not too great, a growth of clover may afford relief. Its leaves exhale a great deal of moisture, and though this as it comes through the roots may contain traces of ammonia, none of this valuable element escapes through evaporation from plants. The roots of clover penetrate to the subsoil, and when they decay they leave water courses through which surplus water may pass away. This effect of clover growing is cumulative. It increases on good land with each successive seeding. It is wonderfully increased by underdraining and subsoiling. Whatever opens the subsoil to warmth and air enables the clover root to penetrate deeper. We have often seen the line of a newly made drain visible a year after by the greater growth of clover over the soil pulverized to the depth of three feet or more, and in subsequent years by the more vigorous growth of all other crops.

A farmer who underdrains does himself an injustice if he does not subsoil on either side between the drains, besides sowing the whole with clover as soon as possible. The subsoil plow and clover admirably supplement each other, as both supplement the underdrain. Farmers who grow clover can place drains farther apart than market gardeners, who are obliged to keep their land under the plow all the time. There is something in the clover root to mellow and make light the soil exhausted of its vegetable matter by long cultivation which nothing else can supply. Even market gardeners and seedsmen who apply large quantities of manure find it to their advantage to seed with clover occasionally. — *American Cultivator.*

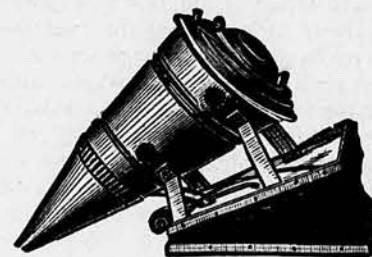
All scalp and skin diseases, dandruff, falling of the hair, gray or faded hair, may be cured by using that nature's true remedy, Hall's Hair Renewer.

Moran, the great artist, despaired when he saw the Great Shoshone Falls—it was so far beyond his pencil's cunning. So there are wonderful dreams of beauty in the tempestuous loveliness of the grand "American Alps" in Colorado, which are at once the aspiration and the despair of painter and poet. Splendid beyond comparison is the superb scenery along the South Park Division of the Union Pacific in Colorado.

The Busy Bee.

Tools of the Apiary.

EDITOR KANSAS FARMER:—The tools needed in an apiary aside from hives are very few, but they are important if the operator desires to work with comfort and safety.



THE SMOKER

is a very simple article, but its value cannot be overestimated in handling bees, whether it be one colony or a hundred. Our illustration will give an idea of its structure, but to make its use entirely plain I offer a few words of explanation. A lot of bees can be put to rout as easily as a lot of soldiers, if only one knows how to do it. It has been known ever since the days of Virgil that bees could be subdued with smoke, but it remained for our modern bee-keepers to demonstrate its great utility. Rags or rotten wood are very good to burn in a smoker. It is best to get them thoroughly to burning before you approach the bees. Blow a few puffs—not too much, and do not blow too hard—in at the entrance of the hive before you proceed to open it. Then remove the cover, and as you do so blow a few puffs of smoke under it to keep the bees down on the combs. Wait just a moment after the hive is open, and then you may proceed to remove the combs or examine them without much danger of being stung. If the bees are inclined to show fight when you go to handle them, give them more smoke. It is best, however, not to use more smoke than is necessary to quiet the bees. Some use tobacco, but we do not favor its use for man or beast, as it is liable to make the bees sick, and if used too freely it will taint the honey.

The judicious use of the smoker greatly reduces the probabilities of a sting, and no one should undertake to keep even one colony of bees without a smoker of some kind.

The one illustrated is known as the Muth muzzle-feeder, and sells for \$1.50; but a smoker good enough for all ordinary purposes may be had for 75 cents.

Another tool, if we may so call it, which adds very much to the comfort of the operator, is a

BEE VEIL.

There are some people who have an idea that such a protection is not necessary, and that it is very cumbersome. A sting in the face, especially near the eye, is very painful to say the least, and in some cases may prove serious, so that I have not much sympathy with those people who are so very brave that they do not need anything of the kind. Of course the old-fashioned wire hats of our grandfathers were very disagreeable to wear, and I do not know but I would take my chance of being stung rather than to wear one.

But a modern veil, made of grenadine, with front of silk brussels net, and a rubber band to draw it around the crown of the hat, when thoroughly tucked under the coat or vest, furnishes complete protection to the face and neck, and is in no way uncomfortable to wear. Any woman who can make a pillow case should be able to make a bee veil. It is simply a sack, open at both ends, large enough to slip over the brim of an ordinary hat, and as long as one width of grenadine, hemmed at the top, and a rubber cord run in the hem and drawn up until sufficiently small to fit snugly around the crown of the hat.

This of itself would make a good protection, but to enable one to see perfectly what he is doing, a piece of the grenadine 7x9 inches is cut out in front

and a piece of silk brussels net inserted in its place.

These veils, made up ready for use, may be had of dealers for 75 cents, which is probably as cheap as one could be made.

Armed with a smoker, a good bee veil and an ordinary screwdriver or tack-lifter, one is ready to do most, if not all, of the work needed in an apiary. The screwdriver is for inserting under the frames or boxes, so they can be lifted without jarring. These are about all the tools needed to produce comb honey, but if one desires to make a larger business of bee culture and produce extracted honey, he will need an extractor and a honey knife, which we will illustrate and describe in our next.

EMERSON T. ABBOTT.

St. Joseph, Mo.

Mr. Abbott is a practical bee-keeper, engaged in the bee business. Our readers may have occasion to correspond with him in a business way. We do not know whether he furnishes bee-keepers' supplies, but if he does not, he will give good advice.—EDITOR.

The Poultry Yard.

The Poultry Blaze.

EDITOR KANSAS FARMER:—Mr. Miller Purvis, of Cardington, Ohio, is the right man to write for poultry papers. In the May number of the *Nest Egg* he tells of an Ohio man who would sell a 25 cent bird for \$3. I wish such poultry people were not allowed to become members of poultry associations. Honesty is what we want in the poultry business. The "one whack" people I want to keep at a distance. We should deal with people in such a way that they'll want to deal with us again. One often gets sadly left when dealing with strangers. I'd rather purchase stock of a high-class poultryman (by high-class I mean what so many term "too high") than to get of a person who sells a number of eggs for \$1. It takes time, it takes patience, it takes an ever-watchful eye to run a poultry business successfully. A few minutes each day devoted to a hundred fowls will not bring them through the season all right, as many would like us to believe. It is surprising to see so many people asking about commencing in the poultry business on a large scale. If one has not had experience in a business he should go slow. Not many weeks ago some one in one of the eastern States asked the editor of a bright poultry journal how to manage a poultry farm so that he'd become wealthy in a short time. Said he had \$1,000 and wanted to begin right. He had never raised a chicken, yet he thought the best way was to invest a number of dollars, and the experience—well, old poultrymen, you can guess the rest. It is the hardest thing to get some poultry-raisers to believe that their fowls should be fed as regularly as their horses or other stock on the farm. They will feed them for a time too much and for a time starve them, and then wonder and ask you the question, why their fowls don't lay well. Don't overfeed; don't under feed; find out how much your fowls will eat clean. Grains should not be left all day long in reach of fowls, but water and milk should, fresh, pure water with old iron or lime in it. But use judgment about lime and don't throw in too much.

I have a fine flock of fowls, about 400, healthy S. C. B. Leghorns. It takes a great deal of time to care for so many properly. I'm doing a good business this season and hope all honest poultry-raisers will succeed. How the birds do enjoy ground shells, charcoal, lime, gravel, pure water, milk, proper housing, etc. Now is a good time to place newly-mown hay in your hens' nests.

BELLE L. SPROUL.

Frankfort, Marshall Co., Kas.

Feed the unsalable vegetables to the poultry.

Feeding Fowls to Reduce Flesh.

Sometimes we feed too well and get our fowls too fat. The Plymouth Rocks are notorious for always being fat, while the Leghorns are said to be never so. A Brahma chicken will not fatten perfectly, but, when grown, takes on fat quickly. To reduce the fowls in flesh without depriving them of food, may be done by forcing them to scratch for a living, and giving them oats only, and but once a day. Select a dry portion of the yard, or, if in wet weather, the floor of the fowl house, and cover it with leaves, cut straw, or salt hay, and such waste material as answers; throw the oats into this, and let them hunt for the grains. Feed nothing in the morning, give the oats at noon, and allow nothing at night. On very cold nights a little corn may be fed. Watch the fowls carefully, and do not carry on the process any longer than may be necessary. Moistening the oats to swell them a little before feeding, and also parching them occasionally, will be sufficient change during the feeding for reduction of fat.—*Farm and Garden*.

Poultry Notes.

Success depends more upon good management than upon the breed.

Young ducks will have cramps if allowed to drink very cold water. Keep them away from ponds until they shall be well feathered.

The best way to set a hen is to do it at night. If she is to be removed to some other location carry her on the nest, as she will be better reconciled to the change.

How to teach chickens to eat sunflower seed—hull a few seeds and throw them down with the unhulled seed, and some of the chickens will learn to eat them in a few minutes, and this will teach the balance.

Ground bone should occasionally be mixed in the soft food for chickens. The bones, however, should be fresh. It will greatly assist the growth of chicks and in a great measure prevent leg weakness, from a too rapid growth of the birds.

To induce a hen to lay, let the nest be partly shaded. When she wants to sit, if you wish to remove her, do it at night and make her surroundings as nearly as possible like those of the nest she laid in. On a farm where there are many nooks and corners, and where the farmer has some one to attend to his fowls, boxes may be put in a number of places, and the fowls will select and lay, each in her favorite nest, and when the time for sitting has come, each go to her accustomed nest without much changing or confusion; but where the accommodations are more limited, more attention must be given to the nests.

Growth of the Argentine Republic.

During the last twenty-five years the population of the Argentine Republic has increased 254 per cent., while that of the United States has increased but 79 per cent.; the city of Buenos Ayres is growing faster than Minneapolis or Denver. Last year it received 124,001 immigrants from Europe, and the natural increase is very large. The newcomers are mostly Italians and Basques, with a sprinkling of Germans, Swiss and Svedes. To tempt the immigrants into the agricultural districts the government has enacted land laws even more liberal than ours. Each head of a family is entitled to 250 acres free, and as much more as he desires to purchase, to a limit of 1,500 acres, at about 75 cents an acre in our money. Or the seller may acquire 1,500 acres free after five years, by planting 200 acres to grain and twenty-four acres to timber. Free transportation from Buenos Ayres to the place of location is granted to all settlers and their families, exemption from taxation for ten years, and colonization societies are organized which issue bonds guaranteed by the government, the proceeds of which are loaned to the settlers in sums not greater than \$1,000 for years, with interest at 6 per cent. upon the cultivation of a certain

amount of land and the erection of improvements. The result of these beneficent laws are conspicuous. In 1886 nearly 900,000 acres of wild land were plowed and planted. One firm in Buenos Ayres sold 1,200 reapers manufactured in the United States, and other firms a lesser number; elevators are being erected upon the banks of the rivers, from which wheat is loaded into vessels for Brazil and Europe, and the average crop was twenty-two bushels of wheat to the acre.—*Harper's Magazine*.



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Notes by Phil Thrifton.

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THE STRAY LIST.

HOW TO POST A STRAY.

THE FEES, FINES AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1886, 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 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 Kansas 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 be taken 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 an estray, must immediately advertise the same by posting three written notices in as many places in the township giving a correct description of each 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 report the same on their appraisement.

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 has vested in him, shall be guilty of a misdemeanor, and shall forfeit the value of such stray and be subject to a fine of twenty dollars.

FOR WEEK ENDING JUNE 20, 1889.

Hodgeman county—E. E. Lawrence, clerk.

PONY—Taken up by C. B. Brent, in Sterling tp., May 31, 1889, one sorrel horse pony, three white feet, stripes in face, brand similar to S above J on left shoulder, scar on back; valued at \$15.

Grant county—S. A. Swendsen, clerk.

HORSE—Taken up by C. S. Blake, in Howard tp., P. O. Lawson, May 17, 1889, one brown horse, branded N. C.; valued at \$15.

Bourbon county—J. R. Smith, clerk.

MARE—Taken up by D. H. Cutlers, in Mill Creek tp., May 13, 1889, one bay mare, black mane and tail, shoe on left hind foot, scar on right hind foot, saddle and collar marks, supposed to be about 11 years old, about 15 hands high.

Elk county—W. H. Guy, clerk.

HORSE—Taken up by Daniel Douglass, in Liberty tp., June 11, 1889, one bay horse, 15 hands high, 14 years old, shod all around, work marks; valued at \$40.

Geary county—P. V. Trovinger, clerk.

GELDING—Taken up by O. S. Russell, in Smoky Hill tp., P. O. Alda, April 27, 1889, one brown gelding, 5 or 6 years old, saddle and harness marks on back, branded K on left shoulder; valued at \$75.

FOR WEEK ENDING JUNE 27, 1889.

Chautauque county—W. F. Wade, clerk.

PONY—Taken up by Geo. Stephens, in Lafayette tp., May 25, 1889, one Texas pony, 8 or 9 years old, 14 hands high, circle on left jaw, letter S on left hip and 22 on left thigh; valued at \$30.

PONY—By same, one Texas pony, 13½ hands high, shod all around, branded M on right shoulder, 10 or 11 years old; valued at \$20.

HORSE—Taken up by E. J. Breeze, in Harrison tp., May 30, 1889, one dark sorrel horse, 14 hands high, 9 years old, both hind feet white up to pastern joint; valued at \$25.

Cherokee county—J. C. Atkinson, clerk.

PONY—Taken up by C. L. Hall, in Pleasant View tp., P. O. Opolis, one bay mare pony, about 14 years old, Texas brand on left hip; valued at \$20.

HORSE—By same, one brown horse, about 15 years old, shod in front; valued at \$20.

PONY—By same, one black horse pony, about 9 years old, Texas brand on left thigh, had on web halter; valued at \$20.

FILLEY—Taken up by R. P. Hall, in Pleasant View tp., P. O. Opolis, one black filly, about 2 years old.

Allen county—R. W. Duffy, clerk.

MARE—Taken up by G. W. Squire, in Humboldt tp., June 3, 1889, one bay mare pony, 5 years old, 14 hands high, star in forehead, four white feet.

Linn county—Thomas D. Cottle, clerk.

2 HORSES—Taken up by E. H. Loyd, in Potosi tp., P. O. Pleasanton, two horses, one bay and one brown, 8 and 12 years old, 5 feet 4 inches high, bay has star in forehead and left hind foot white, brown has no marks or brands; valued at \$50 each.

Johnson county—W. M. Adams, clerk.

PONY—Taken up by T. C. Porter, in Shawnee tp., P. O. Shawnee, June 8, 1889, one clay-bank horse pony, 14½ hands high, brand on left shoulder similar to G, on left hip S, on right fore leg similar to V, and on right hip H, black mane and tail, straggle in left hind leg; valued at \$20.

FOR WEEK ENDING JULY 3, 1889.

Pawnee county—James F. Whitney, clerk.

MARE—Taken up by Matthew Wilson, in Keyesville

tp., June 2, 1889, one bay mare, both hind feet white, star in forehead; valued at \$50.

Chase county—J. S. Stanley, clerk.

MARE—Taken up by W. W. Kurtz, in Diamond Creek tp., P. O. Clements, June 5, 1889, one sorrel mare, 6 years old, no marks or brands; valued at \$50.

Johnson county—W. M. Adams, clerk.

MULE—Taken up by Geo. W. Davison, in Monticello tp., P. O. Holliday, one dark bay mare mule, 14½ hands high, 4 years old, stripe across the shoulders and part way along the back.

Crawford county—J. C. Gove, clerk.

PONY—Taken up by J. W. Towery, P. O. McCune, June 18, 1889, one brown mare pony, white face, branded E on left shoulder; valued at \$35.

STEER—Taken up by W. H. Richardson, P. O. Girard, April 25, 1889, one red steer, 1 year old; valued at \$9.

STEER—By same, one red steer, 1 year old, white on head, feet and belly; valued at \$6.

Notice to County Clerks!

We will regard it a personal favor if each County Clerk will mail us, at the first opportunity, a complete list of breeders (with their postoffice addresses) of thoroughbred horses, cattle, swine, sheep and poultry; also the name and location of every creamery and manufactory in his county. When we have a complete list we will favor you with the directory for the State. KANSAS FARMER CO., Topeka, Kas.

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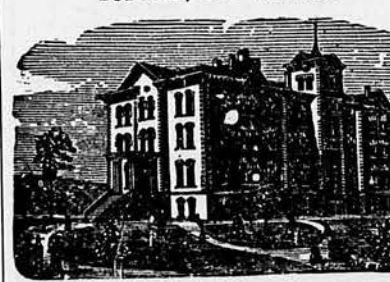
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BLAKE'S ANNUAL
—OF—
WEATHER PREDICTIONS
FOR 1890,

According to Mathematical Calculations, based on Astronomical Laws, will be ready for mailing in August, 1889. This will be a larger book than any I have heretofore issued. It will contain tables giving the maximum, minimum and mean temperature, in degrees Fahrenheit, for each month in the year. Other tables give the probable amount of precipitation in inches for each month in the year for each State and Territory, all of the large States and part of the Territories being subdivided into districts with a separate calculation for each, making 153 districts. The weather for part of Canada and the principal States in Europe is also given. The main features of my predictions have proved correct for the last fifteen years, though I cannot always make all the details correct. But they are sufficiently so to enable farmers to know what crops to plant and when so as to insure best results. My advice last year to seed extensively with winter wheat on account of a favorable winter and spring, and because this summer would be too dry for corn, has proved entirely correct. The planetary situation for both this year and next will be such as to produce great extremes, with only short spells of ordinary weather. Neither farmers nor merchants can conduct business successfully without knowing in advance what these extremes will be. To those ordering the book now I send by return mail a confidential letter of two pages giving the main features of the weather for 1890, as it will take me from two to three months to complete the details for the book; while many wish to know the main points now, so as to know whether or not to prepare for fall seeding and as to what plans for the future it is best to form. In future the weather predictions will be found exclusively in these books, and for that reason the Annual for 1890 will be very full and complete, with advice as to crops and prospects in each State. Price of the Annual for 1890 is \$2 per copy, and price of Weather Tables for 1889 is 50 cents per copy. Address C. C. BLAKE, Topeka, Kansas.

THE GEO. W. CRANE PUBLISHING Co., Topeka, Kas., publish and sell the Kansas Statutes, Kansas and Iowa Supreme Court Reports, Spalding's Treatise, Taylor's Pleading and Practice, Scott's Probate Guide, Kansas Road Laws, Township Laws, Lien Laws, &c., and a very large stock of Blanks, for Court and other purposes, including Stock Lien Blanks, Conveyancing Blanks, Loan Blanks, &c., &c. For fine printing, book printing, binding, and records for County, Township, City and School Districts, this is the oldest and most reliable house in the State.

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The Western School Journal,
TOPEKA, KANSAS.

OFFICE STATE SUPT. OF PUBLIC INSTRUCTION,
TOPEKA, KAS., January 16, 1889.

To County Superintendents:—I have this day designated the Western School Journal as the official organ of this department, through which medium, by agreement with the editor of the Journal, I shall in each issue reach Superintendents, teachers and many school officers. This designation is complete evidence of my confidence that the Journal can be safely insured in the hands of every teacher.

Very respectfully yours, GEO. W. WINANS,
State Supt. Public Instruction.

The Western School Journal publishes monthly all the opinions and decisions of the State Superintendent, Attorney General, and Supreme Court on questions relating to our schools. These opinions and decisions will be worth much more than the cost of the Journal to any school officer. According to an opinion given by the Attorney General, school officers have the power to subscribe for an educational journal and pay for it out of the district funds. Our regular rate is \$1.25 a year, but to district boards, if three copies be taken, we can make the rate \$1.00. Please remit by money order, postal note, or registered district order. Address

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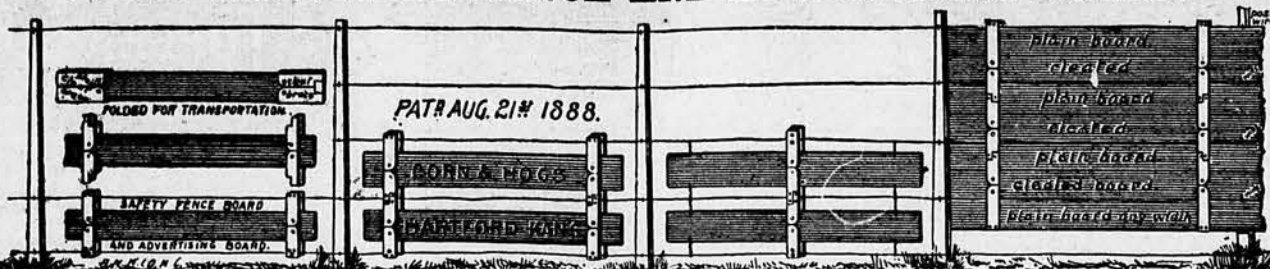
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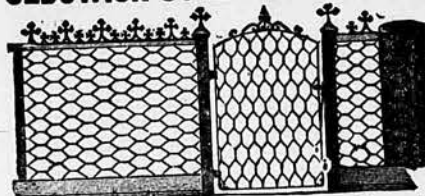


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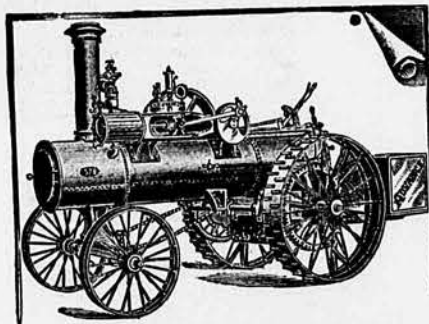
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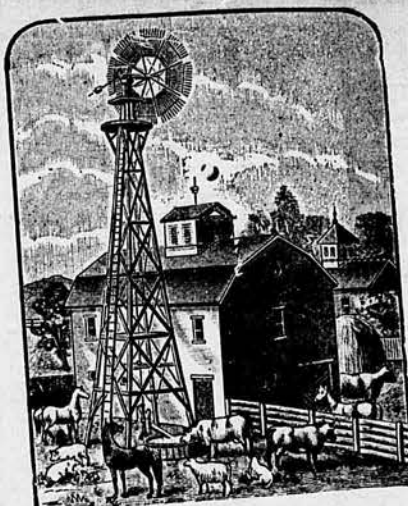
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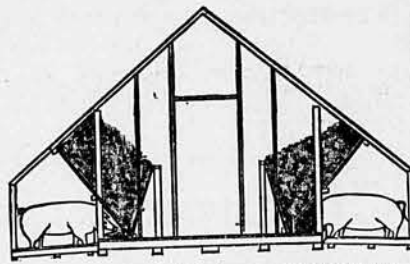
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A Granary and Automatic Feeder Combined, to be erected in the Feed Yard. Will store 900 bushels of corn; feed 150 head of hogs. Any farmer can build it. For feeding laxative and nitrogenous food, such as Bran, Ground Rye, Ground Oil Cake, Shorts, etc., with Corn, shelled or ground, dry, and without waste; also for feeding salt at all times, thoroughly mixed through the feed. Warranted, when properly used, to save at least 20 per cent. of the feed as usually fed. Not by the direct saving alone, but mostly by reason of increased thrift and rapid and even fattening. Will require for construction about 2,000 feet of lumber and 3,000 shingles for feeder of regulation size. Can be built of less capacity and added to at any time to suit the farmer's needs.

The use of this feeder with a proper supply of nitrogenous and laxative food with corn, will in two weeks' time place the most unthrifty hogs in good condition, if not already infected with cholera. It is the greatest safeguard against cholera. Sanitarium hogs eat regularly and often; never overeat. No mud or filth to consume; all work and waste practically dispensed with.

The use of shelled corn or meal in the Sanitarium is not half the trouble it is to feed ear corn. Keeps the yard free from litter; gives all hogs in the yard the same chance to thrive, all having equal access to feeder. When you see your corn trampled in the mud and filth you feel like kicking yourself. When you witness hogs eating from the Sanitarium in a muddy time you smile; so do the hogs. You do not hesitate to provide for the comfort of other farm animals; why neglect the hog? He brings a quicker and better return for money invested than any other animal. Protect his health and feed him properly and he will be more remunerative to you. I furnish Permit with full instructions about building and operating Sanitarium on one quarter section or less tract of land, for \$10.00. To introduce it, I will furnish same to first applicant in a township for 25 cents (in stamps), which merely covers cost of papers, etc., and require building to be erected within sixty days from date of permit. Applications can be made direct to me by mail, and in all cases must be accompanied with description of land on which you wish to build (section, town, range and quarter). Above special proposition will be withdrawn July 1, 1889. Agents with good references wanted in every county—stockmen preferred. Circulars on application.

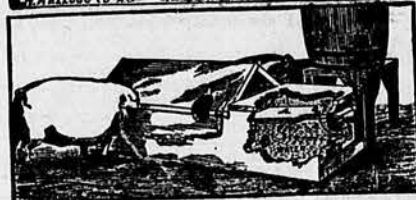
Any party building the Sanitarium, or adopting or using any feature or plan of its construction without first obtaining a Permit or Farm Right, will be subject to prosecution for infringement, and will be proceeded against accordingly.

E. M. CRUMMER,
Patentee and Owner,
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The owners of HOROZONE have been for many years large raisers of hogs in the West, in connection with both cattle and dairy interests, and always finding medical skill of slight avail in hog cholera, and believing that somewhere Nature held a cure, have been searching for it till they found it. For one year it has been submitted to every test from Pennsylvania to Colorado, and has never yet lost a single case of genuine cholera, where given within four days of first sickness.

HOROZONE will not cure measles or anything but just what it claims to cure.

Many letters from merchants of high standing in the country, leading farmers and hog buyers describing what they actually saw HOROZONE accomplish, we have submitted to the editors of the KANSAS FARMER, and refer to them in corroboration for any statement made herewith. Free samples to breeders. Manufactured by

THE HOROZONE COMPANY, General Office, 145 Broadway, New York. Satisfactory terms will be made with responsible, energetic parties for local control and sale of HOROZONE.

Dr. JACOBS,

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