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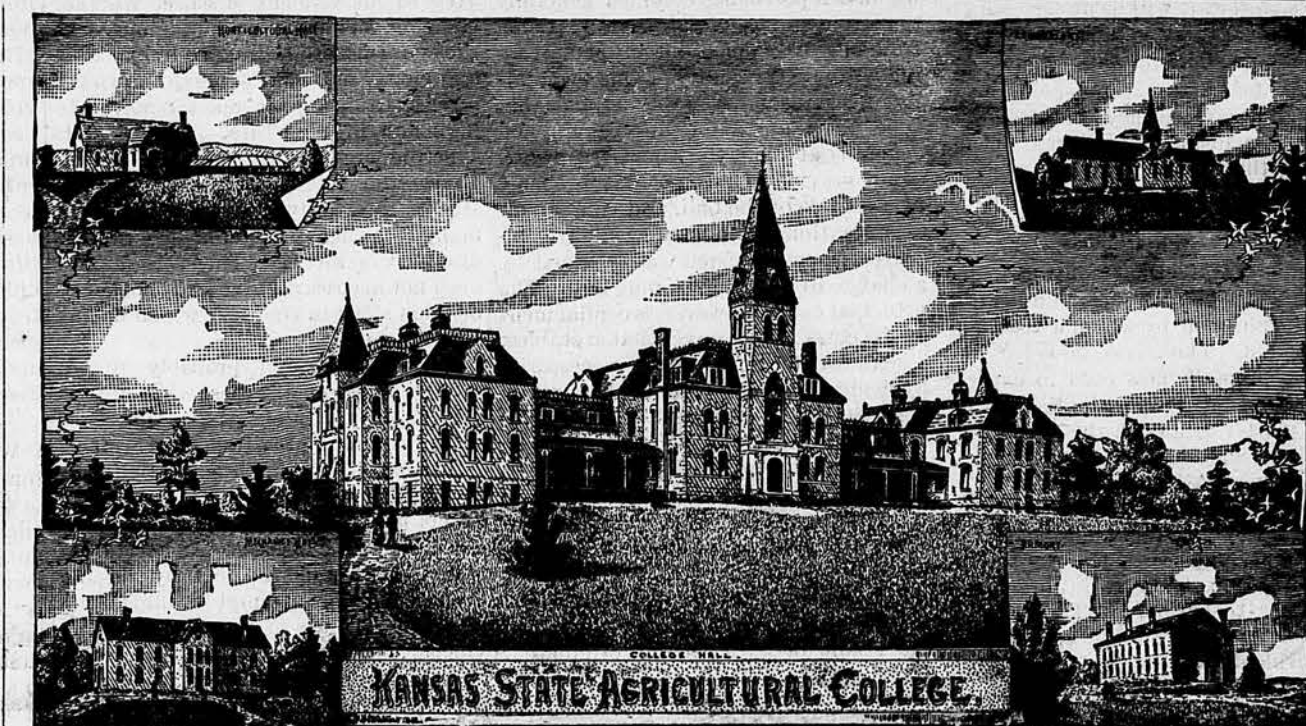
{SIXTEEN PAGES WEEKLY.
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About Raising Potatoes.

Kansas farmers have not yet completed their education in the matter of raising potatoes. We have seen potatoes that were grown in this State which were of quality and size equal to the best grown anywhere, and we have seen a great many inferior ones, and have witnessed complete failures.

So far as our experience and observation have extended they teach that certain essentials to potato growing in other localities are essentials here also. We have found a loose soil well drained to be most suitable for potatoes; if a little sandy, all the better. We have gathered six hundred bushels of excellent potatoes from one acre of clay land, but it had been in grass and the soil was loose and rich. The plowing must be well done, and it is much better if the first plowing was done the last previous year in the fall. It is better, also to do the manuring at that time. This gives more time for admixture of soil elements. Manure has more time to rot and mix, and the soil has longer rest for strengthening influences of the rains and frosts. Plowing should be very deep and the field well drained. It is a waste of time and seed to plant potatoes in ground that was plowed three or four inches deep. Potatoes need a deep bed of loose earth. They grow well in the loose soil of a forest in open places where sunlight has easy access, for there the soil is loose, deep, fertile and well drained—conditions necessary to the growth of potatoes. A clover or timothy sod turned over, if other things are right, makes a good soil for potatoes. If land is poor, deep plowing and heavy manuring will soon bring it up to a good condition for potatoes. Go on a ridge of hard and thin land and you will not raise potatoes enough to feed your canaries. There is nothing there to make potatoes out of. But that high, hard and poor land may be made to produce good potatoes by deep, very deep plowing, thorough pulverization and mixing it with vegetable matter. Take, for instance, a piece of yellowish gray land, too poor to grow weeds, and throw a pile of straw on it and let the straw rot. Then plow it under and the next year spread a heavy coating of stable manure over it and plow it under, then sow to rye and when it is growing vigorously and is two feet high, plow it under. The next year you can raise potatoes on that ground. Clover is better green manure than rye, but in Kansas it is not as certain in growth, and then it does not grow as fast as rye. It is a common habit with many farmers to cover the seeded ground with straw, and let the plants come up through it. Some cases of large crops are reported where the seed was dropped on the naked ground then covered with a deep coating of straw. This is not always a safe method, for in a wet season the surface would be wet and clammy—conditions not good for potatoes.

The common experience of potato growers is, that the best ground for this crop is that which has a large quantity of decomposed vegetable matter in it and is loose and drained. The best land for potatoes, in the opinion of an Ohio farmer that has had fifty years experience, is a rich loam, some sandy, neither too wet nor too dry. A cool, moist soil will produce larger potatoes, but the danger of too much wet is so great that a warmer soil is preferable. One of the best crops I ever raised (and I have raised a good many good crops in fifty-one years that I have kept house and farmed for myself) is



MANHATTAN, KANSAS.

FALL TERM will Open September 10th. For Catalogue address GEO. T. FAIRCHILD, President.

in the following way: I chose second bottom land, limestone gravel, well manured in the fall, it being clover sod. Plowed well and deep, in the fall (I always plow potato ground in the fall); in the winter I hauled ashes from a steam mill, and sand out of the river that was full of leaves and shells, and also some more manure from the barnyard; in the spring I harrowed it well, then plowed it and harrowed again, and made the ground fine and mellow, then furrowed out one way about three and a half feet apart from center to center.

Such in general is the universal experience. We never knew good potatoes in large quantities to be grown on poor dry land, or in hard ground or wet. These conditions being understood, it is easy enough to understand why some of our Kansas farmers do not succeed well with potatoes. They do not attend to this work nearly as well as they do to a fine pig or calf or colt, but it is just as necessary in one case as in the other. We have tested Kansas soil and know that it will produce as good quality of potatoes and as large quantities as the soil of the best potato State, but it must be as well cared for, and it must be good land. It would be folly to plant potato seed on a flint or gravel ridge, while a good crop might be grown at the bottom and especially on the north side. Our lands are higher and dryer and our climate less moist than they are in Ohio and Pennsylvania, and for that reason our grounds need to be stirred deeper, and a longer time allowed for the decomposing of manures and their mixing with soil. All parts of the State are not equally well adapted to this or any other crop, but experience will point the way in this as in other matters. The exercise of a little common farmer sense will often be sufficient to decide the matter. The usual dryness in July and August may be largely set-off by mulching, that is, covering with straw or something of that nature. That prevents evaporation; and if the ground is well drained there is no danger even if the "dry spell"

should not come. Rules for mulching cannot be given with positive correctness. The principle or theory only can be safely stated, and the farmer must learn by practice how best to apply it. This is done by experimenting. Here is the way the old farmer above quoted does: After planting, he says,—Then I let them be till they begin to come through the ground, when I cover them with straw all over the ground about six inches deep; then do no more. Do not use oats straw; it is not good. The oats will come up and the potatoes will be poor. I go through my potatoes about once a day while the bugs are bad and either mash them up or else shake them into a tin basin and tramp them to death. If any weeds come up, I pull them out. I have followed the above plan with straw for the last forty years and always had good crops, but sometimes my straw pile is not big enough, when I plant as aforesaid and cultivate them.

By studying the nature of soil conditions as to dryness, hardness, softness, etc., one may estimate very closely how to manage it for potatoes, having first understood what conditions are necessary.

As to the kind of seed, method of cultivation, time of planting, etc., we submit the following as about the right thing:

"I never plant small potatoes. I always select my seed potatoes in the fall when we dig them. I take the largest, smoothest and best potatoes I can find for seed. I believe in the doctrine that like begets like in all things; therefore I never use poor seed on the farm. I always try to get the best in all things, from a chicken up to a horse, and in all grains, seeds, and vegetables. We can raise good crops of potatoes on clay ground, but it ought to be plowed deep in the fall and well underdrained and manured. Never work potato ground wet. I am often asked what sign I plant my potatoes in. My sign is in the spring of the year when the ground is warm and dry so that I can make it fine and mellow. I never plant or do anything

else in the signs of the zodiac or in the moon."

If the seed is planted in hills put two pieces in every hill placing them a few inches apart—say eight inches. If the seed is drilled drop the pieces about one foot apart, one piece in a hill. Some farmers cover their seed with air slaked lime, by dropping the pieces as they are cut into it. But this is not necessary or even useful when the ground is in good condition.

The seed ought to be covered about four inches deep in Kansas and then there ought to be a ten or twelve inch deep bed of rich, loose earth beneath them.

State Agricultural College.

The cut of buildings at this institution, shown on the first page, presents the main college hall as it will be at the opening of the next college year in September. It is 250 by 130 feet and contains a beautiful chapel with seats for 500 students, thirteen class rooms, all large and well lighted, nine studies and offices, library, reading room, and reception room for visitors, besides rooms for the engineer, and numerous storerooms, cloak rooms, etc.

The other buildings are commodious, and well suited to the purpose to which they are devoted. All are of the fine Manhattan limestone, and appear very neat in their arrangement on the lawn overlooking the city of Manhattan.

The orchards, fruit gardens, vineyard and general plantation of shrubs and trees, all add much to the beauty of the place, while they serve for illustration of the institution. The excellent barn and herds of blooded stock serve the same purpose, and are much visited. The four hundred students in attendance the past year are its best evidence of growth and efficiency, though members of its faculty are widely known.

Certain eastern nations like the smell of valerian and assafetida.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.
September 30—Clay Co., Mo., Short-horn Breeders' Association Liberty, Mo.
October 9—C. S. Eichholtz, Wichita, Kas., Short-horns
November 6—S. E. Ward & Son, Short-horns, Kansas City.
November 20—Jos. E. Miller, Holsteins, at St. Louis, Mo.
May 20, 1885—Powells & Bennett, Short-horns, Independence, Mo.

CONTAGIOUS DISEASES.

Isolation of Animals, Use of Disinfectants, Stable Management, Etc.

By Prof. Periam, in U. S. Veterinary Journal.

The importance of isolation and preventive means in infectious and contagious diseases, and the employment of sanitation in their treatment, is now so well understood and approved by the profession that it will be unnecessary to enlarge upon this topic.

Infection and contagion may very properly be classified under one head, although in a sense they are often distinct. For instance, contagion means literally that which may be communicated by touch or by matter imparted. Infection is the act or process of infecting; the taking up by the system of the effluvium or infectious matter of disease, and also the act of communicating morbid effluvium by which a disease is transmitted. The terms, however, are, and very properly, now used to express the presence of any pestilential or venomous matter by any of the excretions of a diseased body, whether by the breath, perspiration or otherwise. The instances are so few, if indeed they exist at all, where contagion is communicated from the diseased body by contact (touch) against the healthy outer skin of another, that it may well be considered not proven. In the case of the more virulent vegetable poisons it is the tender surfaces, as the eyes, the inner lining of the nostrils, of the mouth, etc., that are first affected. Hence we conclude that in every case that contagious diseases are contracted by absorption of the virus, pestilence or contagium by the system.

Epizootic diseases in animals are those which correspond to epidemic diseases in man. This word in geology was formerly applied to such mountains as contained fossil remains, or mountains of the secondary formation. An epizootic disease, like an epidemic disease, to be so classed must become generally prevalent—not dependent upon a local morbid cause, nor is it confined to any season, climate, region or country. On the other hand an endemic disease is one confined to animals or people of a section of country, and originating from local causes. To this class belong those occasioned by bad water, poisonous plants, imperfect ventilation, and lack of drainage.

The principal infectious or contagious diseases affecting farm animals are: Aphous Fever, Malignant Anthrax, Canine Madness, Contagious Pleuro-pneumonia, Cow-pox, Distemper or Strangles, so-called Hog Cholera, a name commonly applied to several inflammatory and other diseases, and often due to endemic causes, Glanders, Texas Fever, Rinderpest, Typhoid and Bilious Fever, Scab, Mange, Itch, etc. In Malignant Anthrax, Malignant Hog Cholera (Intestinal Fever), Glanders, Canine Madness, Contagious Pleuro-pneumonia, the diseases being well defined, it is undoubtedly more proper to kill and bury deeply than to attempt a cure. Rinderpest we have never had on this continent. It is to be hoped we shall never have it, for unlike our Texas fever, or Splenic fever, the infection of Rinderpest (or enteric fever) may be

carried indefinitely in clothing, litter, wood, and other absorbent substances. Texas fever dies out with the subject to whom it is locally communicated, and its infectious principle is also destroyed by frost.

Four types of disease, Abortion in cattle, Influenza in horses, Texas or Splenic fever and Contagious Pleuro-pneumonia, will be noticed as embracing classes in which hygienic and sanitary means and disinfectants play an important part in the prevention, cure, and especially in prevention of the spread of these diseases. In all infectious diseases, indeed, it is to preventive measures that we must principally look for eradication. In epidemic diseases like influenza, sanitation and good nursing are most important.

Among local epidemics none are more destructive than abortion in cows. Here we have a pestilence confined generally to certain stables of dairy cows arising from obscure causes, but often spreading with great rapidity. One peculiarity of this disability is that animals that once abort are apt to do so again, and generally at about the same period when again gravid. One cause is probably over-service of the bull, and consequent degeneration, since instances have occurred when exclusion was obtained by a change to a fresh, vigorous bull. The principal cause, however, is confinement of the cows in hot, unventilated stables. The means to be used are necessarily hygienic, as explained in the lectures on ventilation and drainage. The indications of approaching abortion are uneasiness, languor, restlessness, sudden filling of the udder, and often bloody discharges. The preventives are, perfect cleanliness in the stable and regular care and feeding. Abortion cannot really be classed as epidemic, but rather as endemic, being usually confined to the stable or barn where it originated. Its suppression consists in removing from the stable to isolated quarters all animals suspected, and, before the expulsion of the foetus, and the thorough disinfection of the stable. If abortion has really taken place, there should be, besides the ordinary means of disinfection, a complete fumigation as well, and subsequent whitewashing of all surfaces with lime wash and carbolic acid. My belief is that the infection is carried by the peculiar odor of abortion and the germs accompanying disorganization.

COWS, PECULIARLY SENSITIVE TO PUTRIDENT ODORS.

Among the natural causes inducing abortion may be named high and stimulating food, hot, unventilated and undrained stables, ergotry hay and grain, violent usage, slipping in the stall or upon frozen ground and injuries from falling down, teasing by the bull, purging and condiments in the food. When abortion really occurs, the foetus and accompanying parts should be sprinkled immediately with chloride of lime or carbolic solution, and the bedding as well, and the whole deeply buried, first being covered in the pit with quick lime. The vagina of the cow should also be syringed with chloride of lime in solution (one ounce to a quart of water), or other established means, and the usual prescriptive means necessary for complete recovery.

The stable being cleared of all animals and divested of all litter and other articles not necessary to the apartment, should be thoroughly fumigated, first being tightly closed. One of the best means is the generation of chlorine by adding muriatic acid to the black oxide of manganese, but this agent must never be used in stables containing water; and before the animals are returned to the stable it should be thoroughly aired, and then washed with one part of pure carbolic acid to 100 parts of soft water; or,

if the impure carbolic acid of gas works can be procured, this may be used without further dilution. We shall return to the subject of general disinfectants further on.

INFLUENZA.

Let us now attend to another class of diseases—epidemic. Let us take Influenza, that disease of many names, epizootic, contagious catarrhal fever, pink-eye, etc. The complications often attending epidemic influenza, as typhoid fever, acute rheumatism, inflammation of various organs, and even tetanus, must of course be met by the proper specific treatment. The sheet-anchor, however, is good care, careful nursing, and strict attention to the ventilation and equable warmth of the stable. That is, where all these conditions are right the losses will be exceptionally small. The same idea will also apply in a degree to all virulent disease, whether endemic, epidemic or contagious. In those forms of anthrax, as in black-leg and bloody murrain, we have known the disease to disappear upon removal to high and firm pasture. Why? The superinducing cause was removed. Hence the veterinarian who carefully studies preventive means may earn many fees once his intelligence in this direction is known. The veterinarian need not necessarily give away his methods, his stock in trade for which he has spent money.

In influenza, and probably in all strictly epidemic diseases, when not extraordinarily virulent, the majority of cases will recover without treatment. In influenza, especially, sanitation will accomplish more than direct treatment, except in those complications often connected with the disease. As heretofore stated, these must be met by specific treatment. The attempt to ward off the disease by the use of tobacco, camphor, vinegar, tar, asafoetida, and that class of empirical agents is worse than useless. The value ascribed to these comes of ignorance. The agents dictated by intelligence—bromo-chloralum, carbolic acid, permanganate of potash, sulphuric acid, and the hypo-sulphites have not proved to be specifics, and from a careful consideration of the conditions present, the entire air constantly filled with the germs of the disease, these cannot be permanently successful. They should be by no means omitted, however, in the treatment and sanitary measures used. All comparatively non-volatile disinfectants, as permanganate of potash, chloride of lime, bromo-chloralum and carbolic acid, will be valuable upon the wood-work and other solid portions of the stable, drains, etc., while sulphurous acid is to be recommended for disinfection of the air; for this agent, when used frequently and in small amount, so as to be non-irritating, has the double advantage of soothing and giving tone to the diseased mucous membrane, and of destroying organic germs, including perhaps the morbid elements in the respiratory organs.

SPANISH OR TEXAS FEVER.

Spanish or Texas (splenic) fever is one of a class of the true contagious diseases. It is especially interesting in the fact that it is not communicated even from one field to another when separated by a fence sufficient to prevent the intrusion of infected animals; communicated to the animals of a locality by Texas cattle, it is not again communicated to others. The infection is destroyed by the first general frosts of autumn, and the infection is communicated only by lands passed over by Texas cattle, or from confinement in yards, stables, cars, etc., used by them. Hence a prevention is sure if animals do not graze upon pastures occupied by Texas cattle, or do not come in contact with the litter of stables, yards, cars,

etc., used by them. To prevent contagion, every apartment infected should be thoroughly disinfected; and the usual sanitary means will be indicated, when infection does appear, as would be indicated in connection with any other virulent disease. Microscopic examinations have shown cryptogamic (fungus) spores in the blood of Texas cattle, while northern cattle unaffected with Texas fever were not so affected. It is reported that all the Texas cattle examined were affected with these germs. Investigation has disclosed the further fact that the fluids of animals affected with splenic fever—the urine, the blood, but more especially the bile, are infected and practically destroyed by this microscopic fungus, botanically known as *Tilletia caries*. This, or at least allied fungus growths, are found on native grasses in Texas. These spores, when immersed in animal fluids, do not produce individual plants but multiply after the manner of simple cells. Each spore contracts at the center, then divides, and either end has at once the power and activity of its parent, and the process of multiplication by what is called fission goes on indefinitely, or so long as the fluid in which it is immersed has fresh organic matter to sustain the life of new cells or spores. Hence the difficulty of curing animals fully infected, and hence also the value of hygienic and sanitary measures, and of disinfection upon the appearance of the disease, or better, when it is suspected.

CONTAGIOUS PLEURO-PNEUMONIA.

We come now to a class of diseases of foreign origin, but which has a foothold in some of the States east of the Alleghenies, and which so far has baffled human skill everywhere in its treatment. Contagious Pleuro-pneumonia is the most serious. It is not only contagious, but there is evidence to show that infection may be carried in the air to a moderate distance. The only means of safe combat is preventive, and, once infection has taken place, the most thorough isolation of the subjects. Indeed, the curable cases of infected animals is so small, perhaps from its insidious nature in the preliminary stages, that the destruction of the animals, covering them with quick-lime in deep pits, and immediate burial is the only sensible course, except cremation; also in connection with these the most thorough fumigation and disinfection of the stables and everything connected therewith, and also of the attendants, should be attended to. And the practitioner should carefully impress upon the owners that the attendants should in no case go near the well animals. The disease once in a locality private means are powerless to eradicate it. State action so far has not proved competent. It is to be hoped that the present Congress of the United States will provide national means for stamping it out, for once it is fairly established west of the Alleghenies, it would seem impossible to prevent its spread over the entire country; and once generally established it will remain continuously, as it has in every country where it has become general. If I, as a farmer, were unfortunate enough to have my animals infected, I should immediately erect a temporary structure in an isolated field for the sick animals, and would thoroughly and once a week disinfect all buildings in which any cattle were kept. And if this did not prove sufficient, I would destroy and bury the whole herd, and burn all buildings inhabited by them, trusting that the State or general government would reimburse me. Dr. Law, of Cornell University, who has probably given the matter of pleuro-pneumonia as critical study as any other person in the United States, both under a commission from the State of

New York and also acting for the general government, advises hygienic and sanitary measures for stables, as follows: 1. "Remove all litter, manure, feed and fodder from the stables; scrape the walls and floor, wash them if necessary, remove all rotten wood. 2. For buildings take chloride of lime one-half lb., crude carbolic acid four oz., and water one gallon; add freshly-burned quick-lime till thick enough to make a good whitewash; whitewash with this the whole roof, walls, floors, posts, managers, drains, and other fixtures in the cow stables. 3. Wash so as to thoroughly cleanse all pails, buckets, stools, forks, shovels, brooms, and other movable articles used in the buildings, then wet them all over with a solution of carbolic acid one-half lb., water one gallon. 4. When the empty building has been cleansed and disinfected as above, close the doors and windows, place in the center of the building a metallic dish holding one lb. of flowers of sulphur; set fire to this and let the cow shed stand closed and filled with the fumes for at least two hours. The above should suffice for a close stable capable of holding twelve cows. For larger or very open buildings more will be required. 5. The manure from a stable where sick cattle have been kept must be turned over and mixed with quick-lime, two bushels to every load; then hauled by horses to fields to which no cattle have access, and at once plowed under by horses. 6. The pits, where the manure has been, must be cleansed and washed with the disinfectant fluid as for buildings. 7. The surviving herd should be shut up in a close building for half an hour once or twice a day, and made to breathe the fumes of burning sulphur. Close doors and windows. Place a piece of paper on a clean shovel, lay a few pinches of flowers of sulphur upon it, and set it on fire, adding more sulphur, pinch by pinch, as long as the cattle can stand it without coughing. Continue for a month. 8. Give two drachms powdered copperas (green vitriol) daily to each cow in meal or grains; or, divide one pound copperas into fifty powders, and give one daily to each animal. 9. Do not use for the surviving cattle any feed, fodder or litter that has been in the same stable with the sick. In certain cases further measures as needed, as removal of the flooring and soil beneath, or even the burning of the entire structure. Drains must also be cleansed."

It has been held that hay, straw, litter or other food kept where animals are infected may safely be given to horses and sheep. I do not think so. The disease, it is true, does not affect those animals, but may not the germs pass through their systems intact, and be communicated to cattle? We have seen nothing to prove the contrary except negative evidence, or rather supposition, which is no evidence at all. In relation to disinfection, I believe that in virulent diseases it is necessary to disinfect the stable or hospital at least once a week, in addition to that constantly in use for the evacuations. The value of disinfection is no longer open to discussion. Its value is reduced to a scientific fact. Experiment has also shown the value of two or more disinfectants in combination. For cess pools, drains, and others of a like character, the following formula will be found good:

Sulphate of zinc, one part; oak bark, powdered, one part; sulphate of iron, one part; mix, and form into balls with tar, of suitable size for use.

Of disinfectants in solid (powdered) form, the following are cheap and effective:

Carbolic acid, one pound; copperas, two pounds; air-slaked lime, two bushels; mix, and use freely.

Another: Burnt alum, one part; dry

chloride lime, two parts; mix, and place in shallow dishes about the stable.

Another: White vitriol (sulphate zinc), one part; copperas, powdered, twenty parts; gypsum, powdered, thirty-six parts.

Still another is: Carbolic acid, powdered, one part; gypsum, powdered, fifty parts; copperas, 150 parts; mix.

One more: Flowers of sulphur, one pound, common salt, two pounds; copperas, three pounds.

A cheap and effective liquid disinfectant to be used as a wash is made of carbolic acid, one ounce; white vitriol, two ounces; water, two gallons.

A powerful disinfectant, but poisonous if swallowed, is made as follows: Chloride of zinc, four ounces; copperas, eight ounces; water, one-half gallon; dissolved, a pint of the solution in a gallon of water will be of full strength to be used. It must be properly marked and placed where children will not get it.

Chloralum, already spoken of in the last lecture, is made by the following formula: Chloride of aluminum, one and one-half pounds; water, one gallon; dissolve.

This has no smell and is not poisonous. Of fumigants, sulphur is probably one of the best. It should be used strong enough to set the animals coughing, and then immediately discontinued, to be again exhibited the second or third day. If sulphur be mixed with tar, the generated gases of combustion form one of the best atmospheric disinfectants known.

Josh Billings says: "I never feel comfortable when there's a man around that smiles all the time. The only dog that ever bit me never stopped waggin' his tail."

Landlady—It's singular, but true, Mr. Crossgrain, that all my boarders remain with me. New Boarder (at first meal)—Too weak to leave, I guess, after the first week.

It is said that the composition called Corinthian brass was discovered when Lucius Mummius burned the city, 146 B. C., and large quantities of metal melted and ran together.

"Were you ever caught in a sudden squall?" asked an old yachtman of a worthy citizen. "Well, I guess so," responded the good man, "I have helped to bring up eight babies."

In the last century whittling was so general an amusement among English sailors that the landlords of the Wapping ale-houses used to distribute sticks to their customers, expecting them to cut them.

The New York violin makers have an agreeable practice of taking the valuable Cremonas which occasionally come into their hands, halving them and substituting new pieces, so as to make two instruments.

The Chinese believe that dusty shoes must never be brought into any place where silk worms are, nor can they bear noise; no sick or old person must come near them; rats and mice must not be named before them.

Stock Ranch for Sale.

A well-watered stock ranch of 1,280 acres, three miles west of Stockton, county seat of Rooks county. A creamery and a school house one-half mile from the ranch. 640 acres under fence and 300 acres in cultivation. The ranch has four good springs and abundance of running water in the creek. There is a good stone residence, stone stable, frame corn crib, a stone cattle stable 14x12 feet, ice and milk house 18x30 feet and corral 150x40 feet, a good well and 600 growing catnip trees. Price \$7 per acre; one-third cash, balance on time at 8 per cent. Address: ROOKS CO. BANK, Stockton, Kansas.

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CATTLE.

U. P. BENNETT & SON, Lee's Summit, Mo., breeders of THOROUGHBRED SHORT-HORN CATTLE, Cotswold sheep, Berkshire swine, Bronze turkeys and Plymouth Rock chickens. Inspection invited.

POWELL BROS., Lee's Summit (Jackson Co.), Mo., breeders of Short-horn Cattle and pure-bred Poland-China Swine and Plymouth Rock Fowls. Stock for sale. Mention this paper.

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D. R. PATTON, Hamlin, Brown Co., Kas., breeder of Broadlawn Herd of Short-horn Cattle, representing twelve popular families. Young stock for sale.

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Farmers frequently need some kind of printing done which they cannot conveniently procure near home, and are compelled to send abroad for it. For that reason it may be interesting to our readers to know that Messrs. Hamilton, Woodruff & Co., 273 Kansas avenue, Topeka, do all kinds of job printing, from a milk ticket to a show poster. They have a large establishment, employing many persons in the different departments. Their stock of material is well selected and always full. They do book work complete, do ruling and binding; do everything in the printer's line. If you have any old books that you wish to be re-bound; or if you have loose numbers of magazines or papers that you want bound, there is no better place to have it done than here.

The presses used by this establishment are all of the best patterns. They received a new large press a few days ago, a cut of which appears on this page. The KANSAS FARMER is printed on it. We have all our press work, binding, and blank book making done by Messrs. Hamilton, Woodruff & Co., and we recommend them to our readers.

What Shall We do to be Saved?

An essay read before the Farmers' Social Club, Nortonville, Kansas, June, 1884, by Mrs. Kate Stires.

What shall we do to be saved? not spiritually, but physically. There is plenty of room to exercise our ingenuity in the solution of this query. It should not be our aim so much to leave off some of the household duties, or slight them, as to study how to accomplish them with less wear on ourselves. Were we to look back to the ways of olden times, and compare them with the present, we would see what an immense improvement there is, and how seemingly impossible it would be to accomplish our work without the aid of invention at the present time. Think of the time of the spinning wheel, the loom, and the sewing machine that lived, breathed and when worn out died; but now the days of linsey woolsey are past, and the homely home-made articles are displaced by goods of factory make, the purchase of which still renders exertion necessary to obtain the means. Otherwise the human race would be almost relieved of any necessity to think or toil. But to think and toil are pleasures within themselves so long as we have more choice in what occupation we apply our energies. All the improvements up to the present time, while not relieving us of the necessity of care, aids us to accomplish more and with greater ease than formerly, and gives us more of a breathing spell as we go along. How much more pleasant it is to sit at the sewing machine for a day sewing than to be a week or two accomplishing the same amount; then we have our time left to employ other ways.

Without taking each labor-saving invention in detail, we will only cite you to a general comparison of the past and present ways, and leave each one to see how important it is for us to avail ourselves of every contrivance to lighten our work. It is not likely the world will ever have less work to do, but it will continue to contrive how much more can be accomplished with the wear and tear of machinery instead of the wear and tear of the human body. It is said "the more highly a nation is civilized the greater are its wants." The civilization of a nation may therefore be measured by the amount of its wants and the means of gratifying them by the use of inventions. It is not likely that an energetic or ambitious person will ever find himself or herself out of employment by the addition of inventions for the possession of them requires effort to obtain the means, and as our means increase by their use and means increase with greater ease our wants widen out and still we have plenty to engage our energies. We are be-

coming more highly civilized; our wants are increasing; but our means of gratifying these wants are becoming more easily obtained by the modern inventions.

So we might point to the use of every sensible labor-saving invention that comes within our means as a solution to the question of What shall we do to be saved? Not saved from a necessity to work, physically or mentally, which is not at all desirable, but saved from that over-worked condition that accomplishes but little toward affording us the means to gratify our wants. The world is as busily engaged now as ever, notwithstanding the improvements; but there is more choice in occupations and greater ease in obtaining means of gratifying our wants. A comparison of the civilized nations with the uncivilized will prove this. The more uncivilized the people the less work they perform. Their wants are but few, their means of gratifying them few also. They have no use for improved implements, for they have no wants to meet as we did. But we are a people of many wants. The only way to gratify those wants without wearing our lives out with fruitless efforts, is to bring into our use all the help we can, else we cannot compete with our neighbors who do, yet work harder in trying to equal them, and become followers a long ways behind, using all our effort to catch up but getting farther behind, as the man that goes on foot gets farther behind his friend who whips past him on the passenger cars. The only way we can keep up if we go afoot is to go where other people go. The only way each individual of a civilized nation can be a component part is to use the same means the others do or he falls behind in spite of overstrained efforts. If the individual must forebear the use of every improvement he can, he had better emigrate to a land of people of like spirit. So, as we are, we are people of many wants, and to save ourselves wear, let us avail ourselves of every facility.

There is a Javanese butterfly which almost exactly imitates, in its color and appearance, the leaves of the trees among which it lives. The upper surface of the wings, when outspread, of a rich orange blue, is very marked, but the lower side consists of some shade of ash or brown or ochre, such as are found among dead and decaying leaves. When the insect is at rest on a tree, it resembles a leaf so closely that the most acute observation fails to note the difference. It sits on a twig, the wings closely fitted back to back, concealing the antennae and head, which are drawn up beneath their bases. The tips of the hind wing touch the branch and form a perfect stalk to the seeming leaf. The irregular outline of the wing gives exactly the perspective effect of the outline of a shriveled leaf.

A certain poetess is said to "make good jellies as well as good poetry." It is suggested that she also make a new departure—send her jellies to newspaper offices and can her poems.

Our Pasture Grounds.

Every year in Kansas our pasture lands—we mean pasture lands on farms, not on the open range, are increasing in size and importance. They are the most valuable lands we have in many cases which, of itself, ought to stimulate farmers to the best care of them. Different varieties of grass require somewhat different modes of treatment in the earlier stages of growth as well as in care and management after it is established. Blue grass, for instance, may be pastured closer than clover or timothy without injury. In Kansas no grass should be cut for hay the same year the seed was sown or the first year of its growth. It ought to be mowed two or three times to destroy weeds and to keep the growth as much as possible in the roots. And then pasture lands need manure as well as other parts of the farm.

The *Western Plowman* has a good article on this subject. Where smooth, well sodded ground is used for pasture, it says, no great amount of work is needed to keep it up in good shape; but such land seldom gets into pasture, especially in timber countries. On most farms there is a rough piece that has never been thoroughly cleared, and that is the piece that is fixed upon for a pasture; and it is a very good plan to pasture such land, for there is nothing that will subdue the toughness and put it in shape to plow as well as close pasturing; but our whole duty to the pasture and stock confined demands that some further work be done.

"If possible, water should be furnished within the limits of the pasture, for if they have to depend upon being taken out to water they will go thirsty a good share of the time. During the long, hot days of summer stock should have access to water several times each day. A well may be sunk in the pasture at no great expense. Cheap planks, hemlock is the best, can be used for the curb. I know of many wells in which hemlock curbing was used that remain in good condition after twenty years' use, with the water pure and tasteless. If pine lumber is put into the well-curb the water will taste and smell bad for a year or so.

"A pasture should also be provided with a shelter that will protect the stock from sun and storms. Shade trees in the pasture might serve the first purpose, excepting in fly-time. I suppose the animals have a good reason, but why they should leave the timber in a blistering, hot day and stand and fight the horse-flies in an open fence corner, is a question that I could never solve to my own satisfaction. If there is an old building of any description in the pasture you will see them huddle into that. A shed with the sides nearly all open offers just the retreat needed in fly time, and also as a refuge in case of a sudden hail-storm or driving rain. Every pasture should be supplied with some such shelter, no matter how cheaply built if it but offer the necessary protection. Posts set in the ground with a

board roof laid over makes a very fair shelter, and the cost of such a one is very slight indeed.

"Another way of increasing the value of a pasture is by dividing it into two parts and giving the stock a part at a time. This prevents them from fouling over the whole constantly, as they certainly will do if allowed the whole range at once. A part is kept fresh and given a chance to get a start while the other portion is being fed. In this way a change of pasture is thus provided every few days, and animals relish this immensely. Of course this plan involves the construction of an extra division fence, but it will be found a profitable outlay, especially where the pasture is a little scant for the number of head pastured thereon."

\$11,950

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All contestants for the 25 premiums aggregating above amount, offered by Blackwell's Durham Tobacco Co., must observe the following conditions on which the premiums are to be awarded: All bags must bear our original Bull Durham label, U. S. Revenue Stamp, and Caution Notice. The bags must be done up securely in a package with name and address of sender, and number of bags contained plainly marked on the outside. Charges must be prepaid. Contest closes November 30th. All packages should be forwarded December 1st, and must reach us at Durham not later than December 15th. No matter where you reside, send your package, advise us by mail that you have done so, and state the number of bags sent. Names of successful contestants, with number of bags returned, will be published, Dec. 25, in *Boston Herald*; *New York Herald*; *Philadelphia Times*; *Durham, N. C., Tobacco Plant*; *New Orleans Times-Democrat*; *Cincinnati Enquirer*; *Chicago Daily News*; *San Francisco Chronicle*. Address, BLACKWELL'S DURHAM TOBACCO CO., DURHAM, N. C.

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Horticulture.

The Plum Curculio.

This native insect has almost banished plum culture from our State, and is, without doubt, the greatest enemy the plum grower has to contend with, for when permitted to pursue its ravages unchecked, it often destroys the entire crop. But few succeed in raising any quantity of this delicious fruit. This small beetle certainly ranks very high as an orchard pest, and yet, if proper efforts were made by all, the culture of the plum could be revived and made profitable, as the tree flourishes as well, or better, than some of our other fruit trees. This beetle often ruins our cherries by wholesale, and not unfrequently attacks peaches, nectarines, and even has been known to operate on the apple and his work laid to the codling moth.

The curculio is single brooded, but one brood in a season; hibernates in the mature state during the winter in secluded spots under the loose bark of trees and other suitable places. In early spring it lies concealed by day under boards and clods, but as the weather becomes warm they remain in the tree and do not go down to hide. As soon as our plums, cherries and peaches are set, egg laying commences and continues even as late as July.

The perfect insect is a small, rough, grayish or blackish beetle about one-fifth of an inch long, and is provided with a short snout or proboscis, and has a black, shining hump on the middle of each wing-case. They are sometimes called snout beetles. The female lays her eggs in the young green fruit shortly after it is formed and something after this manner: Alighting on a plum she makes, with her jaws, a small cut through the skin of the fruit, then runs the snout obliquely under the skin about one-sixteenth of an inch, and moves it backward and forward until the cavity is smooth and large enough to receive the egg to be placed in it. She then turns around and with her ovipositor drops an egg into it, again turns and pushes it with her snout to the end of the passage. After this is done she cuts a crescent-shaped slit in front of the hole so as to undermine the egg and leave it in a sort of flap, her object apparently being to wilt the piece around the egg and thus prevent the growing fruit from crushing it. The whole operation occupies about five minutes time. The stock of eggs a single female will lay has been variously estimated at from fifty to one hundred, of which she deposits from five to ten a day, her activity varying with the temperature. By lifting the flap with the point of a knife the tiny egg, of a pearly white color, can be readily seen.

In warm and genial weather it will hatch in three or four days, but in cold and chilly weather it will remain for a week, or even longer, before hatching. The young larva immediately begins to feed on the green flesh of the fruit, working its way inward until it reaches the seed. It attains its full growth in from three to five weeks, when it is about two-fifths of an inch in length. The irritation arising from the wound and the gnawing of the grub causes the fruit to become diseased and gummy, and it falls to the ground generally before the larva is quite full grown. Within the fallen plum the growth of the larva is completed, when it leaves the fruit it has destroyed, enters the ground, burrowing from four to six inches, forms a cavity and changes to a chrysalis, and in from three to six weeks is transformed to a beetle, makes its way through the soil to the surface and is a perfect insect. Both males and females

puncture the fruit to feed on it, but only the females cut the half circles described. During the day and also on warm nights, the beetle readily takes wing; it is less active during the morning and evening.

When the plum curculio is alarmed it suddenly folds its legs close to its body, turns its snout under its breast and falls to the ground, where it remains motionless, feigning death—acting the opossum. Advantage can be taken of this peculiarity to catch and kill them. A sheet, or two of them if the tree is large, can be spread under the tree and the tree and its branches suddenly jarred, when the beetles fall on the sheet where they can be gathered up and destroyed. Another method, quite extensively practiced in Michigan, is to take advantage of the insects' habit of hiding by day, especially in the fore part of the season, under clods and rubbish under the tree. This is done in this way: The ground is kept nice and clean and smooth as possible. Chips, small pieces of boards or shingles are placed on the ground close about the tree. One gentleman prefers pieces of oak bark, placing the rough or outside up, smooth side down. Three or four pieces the size of a man's hand, to each tree, near the trunk, is sufficient. Early in May they will commence hiding under these pieces. Examine these daily and kill all beetles found under them. One gentleman had his peach as well as his plum orchard prepared in this way, and hires boys to pick and put the insects into bottles. He pays them according to the number caught, and says it saves him \$300 annually. It certainly pays to fight insects on scientific principles. It would be a good plan to have the ground under plum trees prepared in this way, and then jar the trees every morning and evening when the trees are in bloom, and continue until in July. Then examine your board or bark traps every day, being sure not to wait until too late in the day, as toward evening the insects will begin to take wing. Small trees may be jarred with the hand; larger ones should have a branch cut off, leaving a stump several inches long, which can be struck with a mallet, avoiding as far as possible any bruising of the bark. It is very important that fallen plums should be promptly gathered and burnt or scalded so as to destroy the larva before it has time to escape. This must be done daily if success would be secured. Indeed, to make plum culture a success, the jarring of the trees and the gathering of the fallen fruit must be regularly continued, as one of the necessary departments of labor belonging to it. Hens with their broods of chickens enclosed in the plum orchard will devour large numbers of the larvæ of the curculio. Plant your plum trees in the henery, if you have one, or near your walks to your out-buildings. A very good plan is to have a strong cord attached to one or more of the larger limbs near the top, and then let every one passing give the cord one or more sudden jerks. Then with the bark traps and brood of chicks around, success can fairly be assured. As a preventive measure, plum orchards should not be planted near a wood, as the curculios find plenty of shelter there, and are likely to be more numerous than in more open ground; also avoid giving them shelter by removing all rubbish that may accumulate under and about the trees. Keep the ground under the trees clean from grass and weeds, and if the surface is hard it will be all the better.—*M., in Ohio Farmer.*

The Apple Tree Borer.

It is useless for a single grower to attempt to destroy the millers and borers unless the neighbors assist him. He

may destroy all that infests his own trees, but he will be over-run the next season as completely as though he had done nothing, owing to the multiplication of the insects on other farms. The principal mischief-maker is the round-headed borer, which attacks other trees besides the apple. The larvæ are light yellow in color, with tawny spots, and chestnut-brown head. Then there is another kind with two stripes, coming in the beetle state in May and June. He works by night, the female depositing the eggs at the roots of the trees, where they hatch, the worms going in and commencing to bore after the lapse of a fortnight. They live the first year on the sap, wood and bark, boring small holes, which are easily noticed by the chips or dust which they leave behind them. They remain in the trees for at least three years, and during that time, if a number are in the same tree, which is frequently the case, completely perforate it.

As to the remedy there is none after the trees are in their possession, except the knife. Better kill the worm even at the risk of killing the tree, for he will not rest until he has done great damage, and the knife or a piece of sharp pointed wire must be inserted in order to kill him. If the trees are washed for a year just above the roots with a strong solution of soap with carbolic acid and tar in the solution, the female will not be inclined to deposit eggs in such dangerous quarters, but the trees must be so treated often, as the rains wash away the solution. It may be somewhat troublesome, but only for a short time. Keep the trunks clean, and the presence of the borer may be more easily discovered.

Book Notices.

The immemorial institution of trial by jury, which for centuries has been regarded as one of the most essential rights of the citizen, and one of the most effective barriers against absolute power, is itself on trial to-day, and is required to show cause why it should not be discarded and a more effectual method of administering justice substituted for it, or at least why it should not be reformed so as to yield more satisfactory results. Some suggestions for the improvement of the existing jury system, presented by Judge Robert C. Pitman in the *North America Review* for July, under the title of "Juries and Jurymen," should, in view of recent notorious miscarriages of justice, receive the serious consideration of every thoughtful citizen. "American Economics," by Prof. VanBuren Denslow, is a lucid and forcible exposition of the grounds upon which the protection theory of national economy is based. Judge Noah Davis writes of "Marriage and Divorce;" Dr. P. Bender, whose subject is "The Annexation of Canada," sets forth the advantages likely to accrue to the United States from the absorption of the Canadian provinces; Prof. D. McG. Means, in an argument against "Government Telegraphy," subjects the management of the Postoffice to a most searching criticism; Charles T. Congdon writes of "Private Vengeance;" and, finally, there is a symposium on the "Future of the Negro," by Senator Z. B. Vance, Frederick Douglass, Joel Chandler Harris, Senator John T. Morgan, Prof. Richard T. Greener, Gen. S. C. Armstrong, Oliver Johnson, and others.

SONG WORSHIP—For Sunday schools. By L. O. Emerson and W. F. Sherwin. Published by Oliver Ditson & Co., Boston. Price 25 cents. The new Sunday school song books are many, and of all degrees of merit, and it would seem as if a less number would do. Still, it is to be considered that in the hundred thousand or more Sunday schools on this side of the water, there are every year those who need a new book; and for this reason the supply may be considered as rather under than over the demand. The authors of this little work should, if any two people do know, what is needed, and should be able to manufacture the right article. Mr. Sherwin, who has had charge of the music at Chautauqua, and other prom-

inent assemblages of religious and educational people, is in just the position to feel the pulse of the Sunday school public. If he says a higher style of Sunday school music is needed, it is very likely to be so. Of Mr. Emerson's fine taste and ability there can be no question. Song Worship has 192 pages, of which three are devoted to the large index, and another page to a convenient "Index of subjects." The nearly 300 songs and hymns ought to satisfy most people with their plenty and variety.

THE AMERICAN MONTHLY.—July number. Prominent among its varied table of contents is "The Gordian Knot, or Christism and Paulism," a vigorous article from the pen of C. D. Wilber, L. L. D.; the most powerful and truthful elucidation of the subject ever attempted.

In politics, Hon. Elijah M. Haines discourses, "Why the Republican party should not longer be continued in power," while Austin Bierbower, writes in strong opposition. These articles contain many new and startling suggestions, being replete with serious thought for intelligent voters. No live politician should fail to carefully study them.

The second part, (The Moody Revival of '76,) of the serial, "Within and Without," is begun. The strength and weaknesses of Mr. Moody's revival work have never before been so truthfully exhibited. The dramatic situations are skillfully handled, and with power and vigor, especially the contrast of the character of Miss Chippety without the door of the Tabernacle, engaged in her humble and unique manner of laying up treasures in heaven, with that of the Evangelist within. Mr. Moody is exhibited both as an earnest teacher, and as a Chicago Phenomenon—a natural outgrowth of the city. The third chapter contains the beautiful episode of the life of Mr. Orr, and his tribute to the probity of the Friends of Philadelphia, of a half century ago.

Eugene F. Hall and Dr. B. L. McVickar contribute poetical gems, full of human sympathy; Mrs. Alice King Hamilton, "Katharine," a weird study in neutral tints; and H. C. Fulton, a paper on "The First Lord of Creation." A magnificent essay, entitled "England as Reflected in Chaucer," by Eugene Parsons, will be read with much pleasure and interest. A few pages of editorial memoranda conclude this intensely interesting number.

Strictly English titles of honor have no feminine form, and in the early Saxon times when women were of small account, a wife like the spouse of the historic Yankee squire was the "same fool she always was." Even the queen was but cwen or woman.

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Is a highly concentrated extract of Sarsaparilla and other blood-purifying roots, combined with Iodide of Potassium and Iron, and is the safest, most reliable, and most economical blood-purifier that can be used. It invariably expels all blood poisons from the system, enriches and renews the blood, and restores its vitalizing power. It is the best known remedy for Scrofula and all Scrofulous Complaints, Erysipelas, Eczema, Ringworm, Blotches, Sores, Boils, Tumors, and Eruptions of the Skin, as also for all disorders caused by a thin and impoverished, or corrupted, condition of the blood, such as Rheumatism, Neuralgia, Rheumatic Gout, General Debility, and Scrofulous Catarrh.

Inflammatory Rheumatism Cured.

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W. H. MOORE.

Durham, Ia., March 2, 1882.

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The Home Circle.

Work and Wait.

Forty days and forty nights,
Blown about the broken waters,
Noah and his sons and daughters,
Forty days they beat and blow—
Forty days of faith, and lo!
The olive branch, the lifted heights,
The rest at last, the calm delights.

Forty years of sun and sand,
Serpents, beasts, and wilderness,
Desolation and distress,
War and famine, wall and woe—
Forty years of faith, and lo!
The mighty Moses lifts a hand
And shows at last the Promised Land.

Forty days of fast and pray,
The patient Christ outworn defied
The angry tempter at his side.
Forty days and forty years
Of patient sacrifice and tears—
Lo! what are all of these the day
That Time has nothing more to say?

Lift your horns, exult and blow,
Believe and labor. Tree and vine
Must flourish ere the fruit and wine
Reward your planting. Round and round
The rocky walls, with faith profound,
The trumpet blew, blew loud, and lo!
The tumbled walls of Jericho.

When falls the hour of evil chance—
And hours of evil chance will fall—
Strike, though with but a broken lance;
Strike, though you have no lance at all.

Shrink not, whate'er the odds may be;
Shrink not, however dark the hour;
The barest possibility
Of good deserves your utmost power.

I wonder if there may not be,
Somewhere in God's eternity,
A workday season, long and bright,
For souls belated—whom the night
Surprises ere their tasks are done—
Who grieve o'er golden threads unspun
Because of weariness and set of sun?

I know not, yet it seems more blest,
More blissful were the soul's sweet rest
That sometime, somewhere, small have
wrought
Entire, life's purpose—deed or thought.
And so I pray, "Oh, if there be
A place in God's immensity
Where life work may be rounded—give it
me!" —Hannah A. Foster.

Beautifying and Making Home Pleasant.

NUMBER III.

I suppose things are never necessary that we cannot have, so the fancy bric-a-brac is not always a necessity, for sometimes the housekeeper has leisure very little and that should go for the improvement of her mind.

I think women should read the political news as much as the men. Then, if the subject of tariff, or who is the best man for the next President comes up she can give her opinion and reasons. Women should not be like children, knowing nothing except what they see and learn at school. But if she has more time than is required for this I think the great Master would look with more approval on some bit of work for the dear ones than on going over to Mrs. Smith's to discuss the latest scandal.

Perforated card board will make a great many useful as well as ornamental articles. A great variety of easels for photographs, air castles, and receivers and wall pockets can be made by any one of a little knack. A convenient article for the "head of the house" is a shaving paper case. This can be made of silvered cardboard cut in the form of a shield worked around with light blue worsted filled with soft paper cut same shape; finish with a bow at top and bottom of same shade as wool; work the initials on the back and put two or more scrap pictures on the front; make a loop to hang up by.

A pen-wiper is always handy and can be made by one of the little girls for her first fancy work. Cut in the form of shield out of thick cloth with two or three leaves, work around buttonhole stitch and fasten with a bright bow at the top. Picture frames can be made by covering horse shoes with bright silk or velvet. A group of these would be very pretty. How much better the shelves look with lambrequins on; and the old arm

chair looks more easy with a bright tidy on the back.

The mistress of the house should have her papers as well as her husband. I wonder how many take the *Household*. It is one of the best papers I ever read and is only \$1.10 a year. This is not an advertisement, but I hope all who can will send for it. It is published in Brattleboro, Vt., and is sent free to the brides who send 10 cents for postage and the notice of their marriage cut so as to show date of paper, or a wedding card.

DAISY DEAN.

Saving.

To be "saving" is a lesson imprinted upon the minds of the members of farmers' families from an early age. "You must not waste," says the mother, as her little one feeds his dinner to the dog. "You must not waste," is the admonition the father gives as his son drops the seed corn beside him in the field, and all along their lives the saving of material things is taught and practiced as a virtue. This is very right and commendable, but I want to preach a little sermon about a saving of a different kind, an economy of strength, a husbanding of physical force, of which less is said than of that saving which spares expense, but which I certainly believe to be more essential. Summer brings to people on the farm a vast deal of work; a larger quantity of milk to be made into butter, fruit to gather and put up, the winter's supplies of pickles and dried vegetables to be made, larger washings and ironings, hired men to cook for and wait upon; and always the city friends who ignored their country acquaintances all winter are ready for a trip to the "dear delightful country," by haying and harvest time, and wear their white skirts and white dresses with as little care as if their hostess was not her own laundress. Beside this added work, the hot weather robs most of us of at least a part of our physical strength leaving us in a condition aptly expressed in the phrase "as limp as a rag." Under these conditions I advise "saving." Save your strength and your health by every means in your power. Simplify the day's toil by leaving out the non-essentials. If you have a hired girl, do not oblige yourself to work as hard as if you had no assistant by bringing out patchwork to quilt, or any such extra task. Rise early, because it is easier to work in the cool of the morning than when the heat is greater, but make up for time stolen from your hours of sleep by an after dinner nap, remembering that if you choose to take it before your dinner dishes are washed it is nobody's business but your own. Fry a few raw potatoes in the kettle of lard, strain into a jar, tie up tight and set away down cellar; no sensible woman will fry doughnuts for the next three months; it is a greater sin than to eat oysters in a month "without an r." Condemn the cookie cutter to solitary confinement on the top-shelf somewhere; it "don't pay" to make those delightful chips when the thermometer is among the nineties. A soft gingerbread or a "stirred cake" is more economical, more wholesome, and far less trouble. If you must have something of the kind with coffee for breakfast, take a pint of your bread dough, add two beaten eggs, two-thirds cup of butter, a cup and a half of sugar, half a teaspoonful each of cinnamon, nutmeg and cloves, and two cups of Zante currants. Mould into small biscuit, let rise, and glaze with a thick syrup of sugar and water.

Banish from your tables as much as possible of the hearty, heavy food you have eaten all winter, and use eggs and milk freely. Oatmeal is a dish seldom seen on farmers' tables, and most of them think it a "kind of slop," which is beneath their notice; "not hearty enough" they say, forgetting that the Scotch, into whose diet it largely enters, in their native land, are models of hardiness and endurance. It is really a healthy, hearty food, especially when eaten with cream. Many women do not cook it, because they think it needs to be boiled for hours. That which my landlady sets before me every morning, is sifted by handfuls into boiling water, about half an hour before I appear upon the scene; it cooks about twenty minutes, and then simmers on the back of the stove till wanted. It is the coarsely ground meal, and when it is served it is not the pasty, salve mess often seen, but though thoroughly cooked, a large proportion of the grains preserve their individ-

uality. It is far more healthy for the little people, with sugar and cream, than meat and potatoes and the usual cookies and pie.

Spare yourself in the matter of washing and ironing. Do not condemn a garment to the tub because it is mussed, press it out with a warm iron, and let it do duty again. A length of Russia crash laid over the tablecloth at the children's places, or where the men lean against the table with their soiled clothes, saves washing and doing up table linen. Make the little calico and gingham slips without many furbelows; plainness saves so much on ironing days, and the children will grow just as fast and be just as handsome. The young lady of the family should either do up her own white skirts, or wear with her every day dresses the neat and pretty colored cotton ones which are so cheap now.

If you have not a kerosene stove, get one. It will save its cost in the matter of ironing alone. It will save you many steps after chips and kindlings, and much bother with ashes. You have a fire instantaneously, and in five minutes after you are done using, the stove is cold. The heat is steady and can be tempered to any degree desired; there is no continual stopping to "put in a stick of wood." And it saves so much heat, and the warming the upper rooms by hot chimneys and stove-pipes, that I find those who have once used one, are never willing to do without it.

The minimum of heat and exertion is the maximum of excellence in summer house-keeping. Do not disdain to spare yourself when you can. By experiment you will find many things you think you must do, you can, after all, leave undone. Don't crowd two days' work in one; you will surely suffer for it. I have washed, baked, ironed and churned in a single day, and am perfectly willing to agree with any one who chooses to call me "an awful fool" for so overtaxing nature; I do not think it was at all "smart" now. Keep a comfortable chair in your kitchen and sit down whenever you can. I once heard a woman say she never sat down to pare apples or potatoes, as if she thereby assumed a virtue. She is dead now, and another reigns in her stead.

Enough must be done in every household during warm weather, to thoroughly tire the "head centre" by nightfall of each recurring day. But it is her duty, to herself as well as her family, to be as "saving" as possible of her health, strength and vitality. —Beatrice, in *Michigan Farmer*.

Interesting Scraps.

The more self is indulged the more it demands, and, therefore, of all men, the selfish are the most discontented.

Do not philosophize over the contradictions which beset you; do not dwell upon them, but strive to see God in all things.

Truths are first clouds, then rain, then harvests and food. The philosophy of one century is the common sense of the next.

Inexhaustible good nature is the most precious gift of Heaven, spreading itself like oil over the troubled sea of thought.

Nothing so establishes the mind amid the rolling and turbulency of present things as both a look above them and a look beyond them.

A few drops of any perfumed oil will secure libraries from the consuming effects of mould and damp. Russian leather, which is perfumed with the tar of the birch tree, never moulders. Merchants have suffered large bales of this leather to remain in the London docks, knowing that it cannot sustain any injury from damp. This manner of preserving books with perfumed oil was known to the ancients. The Romans used oil of cedar to preserve valuable manuscript.

To prepare sheepskins for mats, make a strong lather with hot water, and let it stand till cold; wash the fresh skin in it, carefully squeezing out all the dirt from the wool; then wash in cold water till all the soap is taken out. Dissolve a pound each of salt and alum in two gallons of hot water, and put the skin into a tub sufficiently large for it to be covered; let it soak for twelve hours, and then hang it over a pole to drain. When well drained, stretch it carefully on a board to dry, and stretch several times while drying. Before it is quite dry, sprinkle on the flesh side one ounce each of finely pulverized alum and saltpeter, rubbing it in

well. Try if the wool be firm on the skin; if not, let it remain a day or two, then rub again with alum. Fold the flesh sides together and hang in the shade for two or three days, turning them over each day till quite dry. Scrape the flesh side with a blunt knife and rub it with pumice or rotten stone.

For woolen stockings, soap the feet, but do not put them into the oven or the wool will shrink; leave them rolled up soaped for a few hours, and then rub them through in warm rain water. Laundresses invariably spoil the elastic tops of stockings by stretching them in rubbing through; this can easily be avoided by doubling the top over and rubbing the leg double. Socks and stockings should never be ironed, but merely smoothed with the hand.

Artesian Wells in New York.

We glean the following information from a New York paper:

While the city authorities are debating how to provide a sufficient supply of water for the millions that are and are yet to be inhabitants of New York, private individuals are solving the problem for themselves in a very practical way. Almost all the brewers of the city have artesian wells or are sinking them. Several dry goods and other business firms are also adding to their liquid stores in the same direction. Tracy & Russell are boring on the sidewalk of their big building on Greenwich Avenue, and have gone as deep as 815 feet to find a flow of brackish water averaging about eight gallons a minute. They have been at it about six weeks. They expect to sink a couple of hundred or more feet before they come to a good supply of clear, sweet water. George Ehret, on East Ninety-second street, is also sinking a well on his premises, and at a depth of 575 feet finds a flow of about 1,000 gallons an hour of brackish water. At a depth of 430 feet Mr. Button, the driller, struck a stream of living water from the East River, the trend of which was from northeast to southwest. He thought it flowed from the vicinity of One Hundred and Sixth street toward the rocky ridge of Fourth Avenue, and then took a turn, and a few blocks south of Ninety-second street flowed back to its source. In the well that is being sunk for Mr. Ehret it is found that the rise and fall of the water correspond with the ebb and flow of the tides in the river. That there is an open channel between the well and the river was also proved by the bringing up in pieces of a fish about ten inches long which had been cut by the drill.

At the depth of about 250 feet another stream was struck. The water is brackish, and is evidently from the river. At the depth of 575 feet it was of the same character, but with an increased mixture of sweet water. At the depth of 800 feet Mr. Button expects to strike below the limestone bed of Ward's Island, and to obtain an abundant supply of good drinking water. This will be tapped at its own level for brewing purposes, while the brackish water will be tapped at the higher level for lavatory and other uses.

Woman's Friend.

So many women suffering with female diseases have been thoroughly cured by the use of Leis Dandelion Tonic, that it is very justly and appropriately called the *Woman's Friend*.

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The Young Folks.

Fire-Flies.

'Tis June, and all the lowland swamps
Are rich with tufted reeds and ferns,
And filmy with the vaporous damps
That rise when twilight's crimson burns;
And as the deepening dusk of night
Steals purpling up from vale to height,
The wanton fire-flies show their fitful light.

Soft gleams on clover-beams they fling,
And glimmer in each shadowy dell,
Or downward with a sudden swing
Fall, as of old a Pleiad fell;
And on the fields bright gems they strew,
And up and down the meadows go,
And through the forest wander to and fro.

They store no hive or earlly cell,
They sip no honey from the rose;
By day unseen, unknown they dwell,
Nor aught of their rare gift disclose;
Yet, when the night upon the swamps,
Calls out the murk and misty damps,
They pierce the shadows with their shining lamps.

Now ye, who in life's garnish light,
Unseen, unknown, walk to and fro,
When death shall bring a dreamless night,
May we not find your lamps aglow?
God works, we know not why nor how,
And, one day, lights close hidden now,
May blaze like gems upon an angel's brow.

—George Arnold.

The Petroleum Industry.

From recent statistics it appears that there are 20,000 producing oil wells in Pennsylvania, yielding at present 60,000 barrels of oil a day. It requires 5,000 miles of pipe line and 1,600 iron tanks, of an average capacity of 25,000 barrels each, to transport and store the oil and surplus stocks. There are now nearly 38,000,000 barrels of oil stored in the region in tanks. This oil would make a lake more than one mile square and ten feet deep. The money actually invested in petroleum production since 1860 is estimated to be more than \$425,000,000, of which \$200,000,000 was capital from New York city. Since 1880 more than \$12,000,000 has been used in building iron tanks, and nearly as much in pipe lines, all by one corporation. The tanks cost on an average \$8,000 each. A 35,000 barrel tank is 90 feet in diameter and 28 feet high; 100 tons of iron are used in constructing one. The annual loss from lightning by the use of iron tanks is very great, as they form an attractive path to earth for electricity.

The speculative transactions in petroleum represent more than \$400,000,000 annually. The lowest price crude petroleum ever brought was 10 cents a barrel, in 1861. In 1859, when there was only one well in existence, Colonel Drake's Pioneer at Titusville, the price was \$24 a barrel. Besides the 5,000 miles of pipe line in use in the oil regions, there are in operation 1,200 miles of trunk pipe lines connecting the region with Cleveland, Pittsburg, Buffalo, and New York, and lines building to Philadelphia and Baltimore. In the line between Olean and New York 16,000 barrels of oil are transported daily. These lines are all the property of the Standard Oil Company, except one between Bradford and Williamsport, Pa. The Standard employs 100,000 men. The product of its refineries requires the making of 25,000 oak barrels of 40 gallons each, and 100,000 tin cans holding 5 gallons each, every day. The first American petroleum ever exported was in 1862. Charles Lockart, of Pittsburg, sent nearly 600,000 gallons to Europe in that year, and sold it for \$2,000 less than the cost of transportation. In 1883 nearly 400,000,000 gallons were exported, for which \$60,000,000 were returned to this country.

The proverb as to the foolishness of those who would not come in out of the rain is said by Strabo to arise from a circumstance in the history of Cyme in Aolis. The people of the city raised a loan by mortgaging one of their public piazzas. After the foreclosure the mortgagees good-naturedly allowed the citizens to take shelter there in foul weather, an announcement made by the crier, and the inhabitants of the rival town, either through obtuseness or malice, on hearing of the proclamation on wet days, "Ho, ye Cymians, come under shelter!" originated the story.

THE ORIGINAL JUDGE LYNCH.

The Man Who Originated Mob Law and Gave it Significance.

Hon. J. C. G. Kennedy, of Washington, is the grandson of Andrew Ellicott, the surveyor who laid out Washington City in connection with D. Enfant, writes a Washington correspondent. Ellicott was, in the days of Washington, one of the leading scientists of this country, and he had also made a name for himself abroad. He did much of the more important surveying for the government, and was employed in important commissions his whole life long. One of his most important works was the survey of the line between the United States and the Spanish possessions in America, consisting of Florida and other parts of the South. During this survey he kept a very full diary, which is still in the hands of his family. It is full of interest concerning early life in the Southern States and among the Indian tribes. It is made up from notes taken on the spot, and it reads like a picture of the past put on the canvas in life-like colors. It was not a new thing to me that the term lynch law came from the man, Capt. Lynch, who originated this form of jurisdiction, but the following description of Capt. Lynch, whom Ellicott met at this time, though now fast approaching the age of 100 years, will be read with interest by the men of to-day. I copy verbatim:

"Capt. Lynch, just mentioned, was the author of the lynch laws so well known and so frequently carried into effect some years ago in some of the States in defiance of every principle of justice and jurisprudence. Mr. Lynch lived in Pittsylvania when he commenced legislating and carrying his ideas into effect. I had the following details of procedure from his own lips. The lynch men associated for the purpose of punishing crimes in a summary way without the technical and tedious forms of our courts of justice. Upon a report being made by any member of the association of a crime being committed in the vicinity of their jurisdiction, the person so complained of was immediately pursued and taken if possible. If apprehended, he was carried before some member of the association and examined. If his answers were not satisfactory he was whipped until they were so. These extorted answers usually involved others in the supposed crime, who in turn were punished in like manner. These punishments were sometimes severe in consequence of the answers extorted under the influence of the smarting whip to interrogatories put by members of the association.

"Mr. Lynch informed me that he had never in any case given a vote for the punishment of death. Some, however, he acknowledged had been hanged, but not in the common way. A horse became their executioner. The manner was thus: The person to be hanged was placed on a horse with his hands tied behind him. A rope was tied about his neck, and its other end, not too long, was fastened to the limb of a tree over his head. In this situation the person was left. When the horse, in pursuit of food, or for any other cause, moved, the criminal was left suspended by his neck. This was called aiding the civil authority. It seems almost incredible," continues Mr. Ellicott, "that such proceedings should be had, governed by known laws. It may, nevertheless, be relied on. I should not have asserted as a fact had it not been related to me by Mr. Lynch himself and by his neighbors. This mode of procedure originated in Virginia about the year 1776, from whence it extended southward, as before observed."

John Quincy Adams.

The President lived a life so simple that the word Spartan hardly describes it. He was now sixty years old. Rising at four or five, even in winter, he often built his own fire, and then worked upon his correspondence and his journal, while the main part of the day was given to public affairs, these being reluctantly interrupted to receive a stream of visitors. In the evening he worked again, sometimes going to bed at eight or nine even in summer. His recreations were few—bathing in the Potomac before sunrise, and taking a walk at the same hour, or a ride later in the day, or sometimes the theatre, such as it was. For social life he had little aptitude, though he went

through the forms of it. This is well illustrated by one singular memorandum in his diary: "I went out this evening in search of conversation, an art of which I never had an adequate idea.... I never knew how to make, control, or change it. I am by nature a silent animal, and my dear mother's constant lesson in childhood, that little children should be seen and not heard, confirmed me in what I now think a bad habit."—T. W. Higginson, in *Harper's Magazine*.

The Cunning of Birds.

A correspondent of the New York Sun, writing from the Connecticut River Valley, says:

"An interesting thing happened to me to-day, although it was nothing novel in my experience. I was walking through a sandy bit of ground near the river, hoping to catch a duck or two napping in the weeds under the bank, when up from my feet jumped a sandpiper, a bird so dreadfully crippled that it was nothing short of a miracle that it lived. One wing utterly refused to perform its office, having evidently been broken at the shoulder; one leg had almost apparently been shattered; the creature's feathers stood out every way, and, altogether, a more miserable and pitiful thing was never seen. It squeaked wildly as it hobbled out from under my feet, and fluttered and staggered painfully away before me. It tumbled and rolled about in a fashion calculated at once to excite all a man's sympathy, and a full determination to run and catch it.

Animated by these emotions, and particularly the latter, I set out at once in pursuit, dropping my cap, however, as I did so, for a reason that will hereafter appear. After a stop or two the bird lay as if wholly exhausted, but as I put out my hand to take it, it gathered a little strength and feebly evaded my grasp; I followed and again essayed to capture it, but again missed it by a foot or two, and this operation with like result, was repeated a dozen times, until at last, when I had chased the sandpiper about a dozen rods, it pulled itself together, ejaculated "peet-weet" in a mocking tone a number of times, and flew away miraculously recovered, as sound and lusty a bird as ever was known. I drew bead upon him with my gun to show how easily I could have paid it for his cheat if I had a desire to do so, and then went back again to pick up my cap. This done, I looked carefully about the ground and, as I expected, found a nest scooped out in the sand, with five olive-colored mottled eggs in it. So I compromised by taking the eggs, well knowing that as many more would be laid within a week, and went away pluming myself that this old trick had grown too threadbare to take me in at this late day.

Nearly all our earth-building birds are acquainted with this artifice, and I have had them all attempt to play on me—sandpiper, sparrows and the golden-crowned thrush, or oven-bird. This latter species, however, acts with more dignity in the matter. He is above resorting to the deceit of simulated lameness, and will not flutter and thrash about on the ground as his less scrupulous cousins do. When he sees you coming through the woods he crawls nimbly out of his nest and skulks along behind bushes and leaves until he gets some distance away from his treasures; then he appears in a conspicuous place and sedately and quietly walks along before you, looking over his shoulder and inviting you to come up and take him, as being a bird who somehow never found use for his wings, and to whom the science of flying is unknown. When you see the bird thus conducting himself, all you have to do is to note carefully the direction in which he is traveling, then walk back in a straight line, and, if you look carefully, you will find the nest somewhere within three or four rods of where the bird appeared. If you have any respect for gentlemanly deportment, however, you will not take more than half of the eggs of this quiet, composed and dignified oven-bird.

The Pretty Girls of Kioto.

Dark blue, unrelieved by any variety, is the ordinary walking dress of the ladies, and women in lower stations adopt the custom. The southern blood of the Kioto ladies reveals in colors of brighter hue. A peacock is nothing to a Kioto girl out for the day. A parakeet is more closely imitated in respect of plumage. Bright reds, violets, greens,

and yellows are frequently seen adorning the same little person. Where matronhood suggests greater sobriety, the average is struck with the assistance of the baby. Children are dressed in the most fantastic style, looking like little cardinals as they played about the streets in long wadded robes of many colors. It is notable that while in the north women and children carrying infants on their back wrap them closely up within their dress, so that nothing but a little round head is visible, the Kioto women, while obliged to inclose the babe within their garment, are careful to leave hanging loosely outside in full view the child's cloak. A purple cloak picked out with red and lavishly turned up with yellow at the sleeves is too precious a gift to be withheld from the enjoyment of the public. There are some pretty girls in Tokio and Yokohama, and there are some ugly ones in Kioto. Eight out of ten girls met in the streets of Kioto are good looking, and five are decidedly pretty. They wear their hair differently from their sisters in the north, who for the most part, are content to oblige the gener local custom of arranging it in a chignon at the back. In Kioto a young lady takes the chignon pad, and, instead of laying it flat to her head, fixes it at right angles, after which all kinds of arrangements are possible. Artificial flowers are largely used to complete the adornment of the Kioto belle's hair. In the north, except on high festive occasions, this is very rare; girls there are content with thrusting a pin through the chignon. The Kioto girl has several pins, in addition to a gaily colored flower, wired so that it may stand an inch or two above the topmost flight of her hair.—*The Cornhill Magazine*.

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Dr. A. M. Eldson..... Cattle for sale.
Atlas Engine Works..... Atlas Engine.
Dexter Curtis..... Collar Pad.
Herbrand Co..... Herbrand Fifth Wheel.
Shepard & Alexander..... Poland-China swine.
Chas. B. Lamborn..... Northern Pacific R. R.
Rockford Watch Co..... Rockford Watches.
Stover Mfg Co..... Ideal Wind Mill.
J. H. Bean & Co..... Bean's Hay Stacker.

TO SUBSCRIBERS:

The letter "d" represents Vol. XXII (1884) on our subscription books. When the number following this letter (d), on the label of your paper, corresponds with the number of the FARMER (which you will find to the left of date line on first page), your subscription expires with that issue of the paper. For instance: If "d 52" appears on the label, your time expires with No. 52 of this volume (1884). Then your paper will be discontinued. You should renew at once.

Corn is growing very fast. In parts of south Kansas it is tasseling. Recent rains were timely.

The Rio Grande is still very high. At El Paso the railroad bridges were swept away a few days ago.

Hutchinson, Kas., voted \$28,000 in bonds to the St. Joe and Rio Grande railroad last Monday.

A car load of new wheat grown near Waco, Texas, was received in St. Louis last week and sold at \$1.21 at auction. It graded No. 2.

Boston and New England passengers should bear in mind that THE WABASH is the only line running a through sleeper from St. Louis to Boston.

Subscription Agents, Publishers and Postmasters, please preserve the cards we send you, and encourage the FARMER by sending us a large number of subscribers each for one year.

Wheat is reported good all over the State; in some places very good. Harvest has begun in the southern half. Next week probably half to three-fourths of the wheat will be cut. If no unforeseen misfortune befall, the crop will be unusually large.

Again we remind our readers of the importance of taking care of the cut grain. There is nothing absolutely certain in advance about the condition of weather twenty-four hours hence. Have everything ready, and as soon as the straw is fit, get it under cover without delay. After waiting and working for a crop it ought not to be lost by negligence.

Milk is usually talked about in the papers by weight instead of by measure as farmers handle it. Why this is we do not know. There is no sense in it. It is always confusing to the ordinary reader. The weights of certain measures are: One gallon of new milk weighs 8 lb. 8 oz., one gallon of skim milk 8 lb. 9 oz., one gallon of pure cream 8 lb. 4 oz., one gallon buttermilk 8 lb. 8 oz., and one gallon of water 8 lb. 5 oz.

Kansas City Fat Stock Show.

Kansas and Missouri have some of the best stock in the world, and their farmers and breeders have much at stake in the matter of beef, pork and mutton. It is a trade of enormous proportions and it is growing every year. Farms, likewise, are growing more valuable and grazing lands are fast passing under fences. It behooves meat-producers to study methods now as well as breeds, for the time has come when we must make meat at the lowest possible expense.

The object of Fat Stock Shows is to stimulate activity in the production of meat, and this includes breeds, lands, food and handling. Every breeder in Kansas and Missouri is personally interested in the Kansas City Fat Stock Show to be held next fall. It is not expected that every man will take all or any of his stock there, but breeds and localities in different parts of the States ought to be represented. People want to know the peculiarities of different breeds, particularly as to meat qualities, and they want to know what portions of the States produce the best and cheapest meat. They naturally expect to see these things demonstrated at the Fat Stock Show, and they go there for that purpose.

Taking stock to the show is attended with more or less expense, and as this thing is for the general good much more than for the benefit of particular persons, whole counties are interested in what goes from them, and the State is interested in the general exhibit. That fact ought to move farmers to unite in bearing expenses of taking one or more of the best animals in their township or county, without reference to who is the owner. The common interest is greater than that of individuals.

By thus uniting the expense would be made very light upon individuals, and yet the object of the show would be attained and the particular breed and locality would be represented and duly advertised. All such matters are public in their nature and maintained for the public good, and for that reason every person is more or less interested in them. In a county where there is good stock and good lands to grow more of it, the county fair association might properly unite with private persons in working up the local interest in the great exhibition.

The FARMER takes great interest in the Fat Stock Show because of its educating tendencies. We want to see our farmers take the lead in meat-producing animals as well as in bread-producing plants. We are ahead on wheat and corn. Let us go head in pork, beef and mutton. Let every Kansas farmer that has a cow, a pig or a sheep consider himself a committee of one, specially empowered to see that the Kansas City Fat Stock Show is made a success by the presence of representative specimens of the best animals and best lands and best feed and best handlers in the State.

The Railroad Problem Solved.

Readers of the KANSAS FARMER know how hard and long this paper contended for an adjustment of difficulties with railways, that would protect the people and not cripple the roads. Our policy has been and now is, to encourage, not impede or cramp the roads. We have been liberal to the full extent of reason and safety. All we asked was reasonable, uniform and equal rates that are fairly earned in the service performed. We wanted the law to establish certain general rates for transportation which should be maximum; that the roads should not be permitted to

charge more than these maximum rates, but to have full and free play under them, charging what they please, saying only that they do not discriminate against persons, places or communities. We have insisted that upon no other basis could this matter be permanently adjusted. We criticized the law passed at the last session of the Legislature, and have several times called attention to its defects in operation. The Board of Railroad Commissioners have discovered, if they did not know it in the beginning, that their duties are merely advisory. Whenever they have undertaken any positive measures it was soon pointed out to them that they had no authority greater than a committee of the Legislature.

But, the law has done good. It has stimulated men to a study of the subject, and it has brought out discussions on the part of railroad men. It has brought the people and the roads together, and in a spirit of mutual good will they have compared notes and have finally agreed upon a basis of adjustment—precisely that which this paper has advocated all along. What follows we copy from the Daily Capital of a recent date:

SETTLED AT LAST.

The difficult problem which the Board of Railroad Commissioners have had to contend with in adjusting freight rates, not only upon the line of the Santa Fe road and all its branches, but upon all the systems in the State, has finally reached a very satisfactory conclusion, and the war which at one time seemed inevitable, has been averted.

For some time past representatives of the Missouri Pacific, the Union Pacific and the Atchison, Topeka and Santa Fe railroads have been in consultation with the Board with a view to adjusting the differences and agreeing upon a uniform system of rates, and yesterday the result of the conference was reached in a schedule of general tariff rates which was issued by the Board. These rates have been agreed upon a full investigation of all the matters involved, and they apply both ways over the lines in the State. On all classes of shipments except live stock the rates have been reduced from 10 to 20 per cent. as compared with the old rates, and the reduction will be a great saving to the people of the State.

To be fully understood it must be remembered that the rates agreed to are maximum rates, and the railroads are left free to make special tariffs, viz.: tariffs special to the commodity, but not to persons or places, which in no case can exceed the rates agreed upon. Several companies have agreed to issue special grain, live stock, emigrant, coal and stone tariffs, each of which will quote rates less than the agreed rates mentioned in the general tariff. The following table shows both the old and the new rates from Missouri river points to Newton and to Great Bend:

	NEWTON		GREAT BEND.	
	Old rates.	New rates.	Old rates.	New rates.
First class.....	75	65	95	80
Second class.....	65	55	84	72
Third class.....	56	50	71	65
Fourth class.....	47	43	62	55
Fifth class.....	42	38	55	48
Class A.....	37	34	45	40
Class B.....	25	23	29	25 1/2
Class C.....	21	18	24	22
Class D.....	20	18	24	22
Wheat, potatoes, flax and millet seed, castor beans and broom corn.....	20	18	23	20 1/2
Flour and corn meal.....	23	20	26	23
Corn, oats, barley, rye and bran	14	14	14	16
Hay.....	20	12	24	16
Salt in barrels or bulk, and cement and plaster in barrels...	23	20	26	22
Soft coal.....	17	11	20 3/4	14
Soft lumber, lath and shingles	20	17	24	21
Horses and mules.....	35	40	35	45
Cattle and hogs.....	35	35	35	40
Sheep.....	30	30	30	35

In the adjustment and adoption of these rates all the differences between the railroad companies in regard to certain inter-State business, rates upon auxiliary lines, etc., have been satisfactorily settled.

The railroad problem has practically been settled, and all the roads in the State have either already agreed to the rates or have signified their intention of doing so.

Mormonism.

The Utah bill as passed by the Senate provides that the lawful husband or wife may be compelled to testify in prosecutions for bigamy, polygamy, or unlawful cohabitation, and in such prosecutions an attachment for the witness may be issued with previous subpoena when it shall appear to the judge that the witness would unlawfully fail to obey the subpoena. Bail may be accepted for the appearance of such witness, and in any case he or she shall not be held longer than ten days. Prosecutions may be commenced within five years after the commission of the offense. Every marriage ceremony in any Territory of the United States shall be certified in writing, which writing shall state the full names of all persons taking part in the ceremony and shall be signed by them, and shall by the officer or priest solemnizing the marriage be filed with and recorded in the Probate court. Such certificate shall be prima facie evidence of the facts stated in it. Any violation of this provision is punishable by a fine of not more than \$1,000, or imprisonment not more than two years, or by both. Every such certificate and record shall be at all reasonable times open to the inspection of the officers of justice of the United States under like penalty for refusal to exhibit for inspection. Women shall not be entitled to vote in Utah. All measures of the Territorial Legislature providing for numbering or identifying the votes of electors are disapproved and annulled, but this provision is not to preclude the lawful registration of votes, or any other provisions for securing a fair election that do not involve the disclosure of the person for whom the elector voted. The Probate court is deprived of all jurisdiction except as to estates of deceased persons and the guardianship of the persons and property of infants and lunatics according to law. Such property and assets in excess of the debts and lawful claims established by a court shall escheat to the United States and shall be used by the Secretary of the Interior, under direction of the President, for the benefit of common schools in the Territory. All existing election districts in the Territory are abolished, and it is made the duty of the Governor, the Territorial Secretary and United States Judges of the Territory to redistrict the Territory so as to secure equal representation of the people. No persons but properly qualified citizens of the United States are entitled to vote in the Territory. The bill declares vacant the office of Territorial Superintendent of District Schools and vests the power of appointment of such an official in the Supreme court. It prescribes a penalty for the crime of adultery to be imprisonment in the penitentiary not exceeding three years.

All laws of the Territory of Utah conferring the rights of inheritance on illegitimate children are annulled. Territorial laws providing that prosecutions for adultery can only be commenced on complaint of husband or wife, are annulled. All such prosecutions may hereafter be instituted in the same way that prosecutions for other crimes are. Territorial laws incorporating, continuing or providing for the corporation known as the "Church of Jesus Christ of Latter Day Saints" and the ordinances so-called of the General Assembly of the State of Deseret, incorporating such church, are annulled so far as they may preclude the appointment of trustees by the United States. The President of the United States, with the advice of the Senate, shall appoint fourteen trustees of said corporation who shall have the powers of trustees provided in the act creating that corpo-

ration, and shall hold office two years, and shall each give bond in an amount to be fixed by the Secretary of the Interior. The General Assembly of Utah shall not have power to change the laws respecting the corporation without the approval of Congress. In all proceedings for the enforcement of laws against corporations or associations holding property in any Territory in excess of the amount limited by law, the courts shall have power to summarily compel the production of all books and accounts belonging to any trustee or manager of the property in which such corporation may have any right, title or interest. All laws of Utah relating to the Perpetual Immigration Fund company are annulled, and it is rendered unlawful for the Legislature of the Territory to receive or recognize any corporation or association having for its object the bringing of persons into the Territory for any purpose whatever. The Attorney General is directed to institute in the Supreme court of the Territory proceedings to dissolve the company named and dispose of its property and assets.

Meadow Oat Grass.

Mr. J. W. Robson, of Dickinson county, has a field of this grass that measured six inches high April 1; April 15, one foot; May 1, eighteen inches; May 15, three feet; June 1, four feet six inches.

He says: Last spring I sowed two acres inside of the pasture. The cattle have grazed this plot severely, yet every day it recuperates and furnishes daily supplies. I am satisfied now that for grazing purposes, for hay, and for a green succulent aftermath in the fall it is not excelled by any of our popular tame grasses.

From reports which I have received from all portions of the State this newly introduced grass is making a splendid record and is giving entire satisfaction, which convinces me more than ever, that it will meet the wants of the stockman, the flock-master, and the general farmer, in a word, that it is the tame grass for Kansas.

Russian Apple Trees.

We are in receipt of the following letter from the Secretary of the State Horticultural Society:

Kansas Farmer:

I am in receipt of several letters from localities in this State setting forth the work of tree agents offering varieties of Russian apples. The points of merit claimed for this class are as follows:

- 1st, That they are hardy and more preferable for planting in Kansas than our native grown varieties.
- 2d, That they are more productive of fruit and the quality far superior.
- 3d, That the stock on which they are worked is imported from Russia, grown as a seedling in nursery rows three years, then budded and the budded form grown two years longer and then sold to the public under pledge that they will fruit in the second year thereafter.
- 4th, That this class is the only one that will succeed in this State.
- 5th, Price 50 cents a tree, but for the sake of introduction are offered at the exceedingly low price of 40 cents.
- 6th, Nurseries represented, Tadmor, Ohio, Carmi, Ills., Sparta, Wis., Burlington and Topeka, Kas., to all of which the experience of intelligent experimenters, both in Kansas and other States, will be entered in the next issue of the FARMER as rebuttal in a general denial for the benefit of such persons as have not already been duped into the purchase of such stocks, leaving such as have to enjoy the benefits of their folly.

G. C. BRACKETT.

Western Kansas.

Our Mr. Heath took a run over a considerable portion of west Kansas last week, and he was delighted with what

he saw. He made us promise to give him room in the FARMER for an expression of his admiration of the people and country out there. He thinks he saw the "boss country, sure enough."

Durham Park Short-horns Sold.

Special correspondence KANSAS FARMER.

Last spring A. H. Martin, of Abilene, Kas., purchased the ranch known as Durham Park, in Marion county, Kas., and at the same time he purchased the celebrated Durham Park herd of Short-horns, which were sold at public sale the 18th inst., at Abilene, Kas.

The sale took place at the Dickinson county fair grounds. There was a good attendance of breeders, besides the presence of stockmen and farmers. The following representative breeders were noticed by the FARMER reporter: Governor Glick, Gen. J. C. Stone, Leavenworth; Albert Crane, Chicago; Joab Mulvane, Topeka; Chas. Burnham, Manhattan; Dr. O. F. Searl, Solomon City; Dr. G. A. Coggeshall, Ellsworth; E. Brunson, Abilene; F. M. Neal, Pleasant Run; P. W. Powers, Miller Bros., and O. B. Heath, Junction City; W. W. Waltmire, Carbondale; W. D. Miner, Burlingame; W. A. Maxwell, Mentor; H. H. Lackey, Peabody; A. W. Rollins, W. P. Higginbotham, J. J. Mails and C. E. Mails, Manhattan; J. M. Sullivant, Skiddy, and A. Wiley and lady, Solomon City, Kas.

Col. S. A. Sawyer, Manhattan, Kas., did the auctioneering in a very creditable and lively manner. He made the unusual record of selling 113 Short-horns in six hours for the neat sum of \$16,985. Many favorable comments were made upon his work at this sale. Albert Crane, of Chicago, stated that he considered Col. Sawyer a remarkable salesman for so young an auctioneer, and that his knowledge of pedigree was unusually good, and further, should he ever make a sale he should secure Sawyer to make it.

113 female Short-horns sold for \$16,985, an average of \$150.30. The highest priced animal sold was Miss Bates 14th, 5 years, a Filbert, bought by W. P. Higginbotham, also a number of high-priced Jubilee's were taken by him as well as everything sired by the bull Pathmaster.

The following is a list of the purchasers: A. Wiley, Solomon City; J. W. Fitzgerald, St. Marys; Governor Glick; P. W. Powers, Junction City; W. A. Maxwell, Mentor; Miller Bros., Junction City; J. L. Shore, Camden; Jno. Watts, Carrolton; St. Marys College; Pogue & Co., Solomon City; Albert Crane, Chicago; Chas. Wortman, Denver, Col.; Jno. Goepfert, Perry; W. P. Higginbotham, Manhattan; C. E. Mails, Manhattan; O. B. Heath, Junction City; H. H. Lackey & Son, Peabody; O. L. Thisler, Chapman; F. W. Gallagher, St. Marys; Low & Elliott, Dickinson county; G. W. Carpenter, Abilene; F. M. Neal, Pleasant Run; Bill & Burnham, Manhattan; Jno. Pearl, Abilene; J. J. Mails, Manhattan; Geo. Channon, Hope; Mr. Yoxall, Russell; W. D. Miner, Burlingame.

The sale seemed to be quite satisfactory to all interested parties. HEATH.

Gossip About Stock.

A good bargain is offered in a finely equipped stock ranch near Stockton, by the Rooks County Bank.

Short-horn breeders are feeling jubilant and encouraged over the great Short-horn sale made by A. T. Hamilton, at Lexington, Kentucky.

John F. Goepfert, Perry, Kansas, has started a Berkshire herd; he purchased his sows of J. J. Mails, Manhattan, and his boar of F. M. Neal, Pleasant Run, Kansas.

Dr. Eidson has an interesting sale notice in this issue. His herd has outgrown his farm, and he must get rid of a part. The Doctor is a responsible man and will make good anything he says. Look up his card.

Bancroft & Dewey, Waverly, Kansas, made an addition to their Short-horn herd last week by purchasing a young Mary bull from the State Agricultural College farm and ten females from J. J. Mails, Manhattan.

Through the courtesy of Col. Ed Heren, Secretary of the Kansas City Fat Stock Show, we have received a report of the public sale of Short-horn and Aberdeen-Angus cattle sold at Burlington, Nebraska, by Hon. T. W. Harvey. 26 Short-horn females sold for \$10,105, an average of \$415.57, and 4 Short-horn bulls at an average of \$156.25. Thirty Short-horns sold for \$11,430, an average of \$384. The Aberdeen-Angus sold

as follows: Three females sold to J. S. & W. R. Goodwin, Beloit, Kas., for \$1100, an average of \$366.66, and six bulls were sold for \$406 each. Nine Angus cattle sold for \$3,535, an average of \$392.77.

Dillon Brothers, Normal, Illinois, write us: Our first importation for this season, 49 head of Norman horses, arrived here the 16th of June, all in fine condition. We had a fine voyage of 13 days on the Atlantic, and a quick run from New York.

Miller Bros., Junction City, report an excellent trade in Poland China swine this season. They offer a great bargain in high grade Short-horn females which they wish to close out for a larger herd of thoroughbreds. See ad. in the two cent column.

That renowned breeder of Berkshire swine, A. W. Rollins, Manhattan, Kansas, reports that the rush and demand still continues for Berkshires. He has shipped to fourteen States and territories, from his establishment. Last Monday he made a shipment to Kentucky, Nebraska, and Missouri, and booked eleven orders for delivery in about a year.

Recently a representative of the FARMER visited Clover Cliff farm, owned by J. R. Blackshear, Elmdale, Chase county, Kansas. The farm consists of about 4000 acres of the Cottonwood valley and adjacent range. He has 190 acres in alfalfa, which was being put up for hay at the time of our visit. This is the largest acreage of this valuable clover in the State, and stock of all kinds prefer it to any other known kind. It is perhaps well known that Mr. Blackshear has been handling the Galloway cattle more extensively than any other person in the State. At the present time he has on hand 46 Galloway yearling bulls, 60 yearling heifers, about 160 calves, and in the entire lot not more than a half dozen were off in color and but two bulls that had spurs of horns. These cattle are the produce of thoroughbred Galloway bulls upon common and grade cattle. The experiment with him is perfectly satisfactory. That this breed possesses much merit for the range there is no doubt.

Letter From Stafford County.

Kansas Farmer:

We have had an abundance of rain in this section of the State; the crops are the finest I ever saw at this time of year. The farmers are plowing their corn the third time. It is about 4 feet high and looks well. The finest prospect for oats in the history of the county. The potato crop is simply immense. Considerable wheat has been cut with twine binders; there has been a very large number of binders and headers sold here, and the farmers are now well prepared to take care of their large wheat crop. There have been three steam threshers (with traction engines) sold in this vicinity. The owners of the machines propose to furnish all the help and thresh for 7 cents per bushel. There has been but little broom corn planted as compared with former years; there is too much expense attached to it and too little profit. Farmers are turning their attention more to raising of small grain and stock than formerly, as they believe that it will be more remunerative.

It becomes our duty to record the death, by consumption, of Mrs. C. M. Johnson, of this vicinity, who for many years has been one of the best correspondents of the KANSAS FARMER. She was one of the noblest of women; was always striving for the happiness of those around her; was a great friend of education, and has written and published many letters on the above subject. She died on the 20th inst. The funeral sermon was preached in the new M. E. church by the pastor, Rev. A. J. Taylor, and her remains were followed to the cemetery by the largest concourse of people that has ever assembled here upon a like occasion. Mr. Johnson and children have the sympathy of all who are acquainted with them. J. F. GRISH.

Safford, Stafford Co., Kas., June 21.

The Wool Market.

There is nothing new to report. There is not much doing comparatively, and there is little to stimulate hope of an early upward tendency. Brown & Co.'s Boston wool circular says:

The market is without any material change since our last issue of June 1st, and although the sales this week show some increase over those of the two previous ones, manufacturers are still buying only to meet their immediate requirements.

There is but little inducement for them to purchase heavily as the present supply of both old and new clip on the market, is small and they know that a few weeks will give them a good assortment to select from.

During the summer months, when there is a large amount of all grades on the market to select from, manufacturers usually make liberal purchases, and with a better accumulation of the new clip a few weeks hence, we anticipate more demand for the staple and larger sales. It may be that prices will not vary much from the present basis, but with daily transactions of greater magnitude than have recently prevailed, values can be more readily arrived at than is now the case.

Kansas and Nebraska—light—Fine 20a 22c, fine medium 22a 24c, medium 20a 22c, ordinary—fine 18a 19c, fine medium 19a 21c, medium 18a 19c, low and carpet 14a 15c.

THE MARKETS.

By Telegraph, June 23, 1884.

STOCK MARKETS.

Kansas City.

The Live Stock Indicator Reports:

CATTLE Receipts since Saturday 1,475 head. There was no material change in the market today from Saturday, the demand for offerings of good quality having been fairly active at about previous ruling prices. Sales were \$30 for some cows to 620 for shipping steers.

HOGS Receipts since Saturday 7,443 head. The market to day was steady for selected light, but weak and 5c lower for heavy. Sales ranged 4 6a 50c, bulk at 4 70a 80c.

SHEEP There were quite a number of medium mutton and stockers on sale to-day, but good lots were scarce. Hence a slow and rather weak market.

CLIPPED.

Good to choice..... \$3 25a 4 00
Fair..... 2 35a 2 75
Lambs, per head..... 2 00a 3 00
Common and stockers..... 1 00a 2 00

Chicago.

The Drovers' Journal reports:

HOGS Receipts 20,000, shipments 4,400. Market steady and unchanged. Rough packing 4 60a 5 10, packing and shipping 5 10a 5 40, light 4 60a 5 25, skips 3 00a 4 60.

CATTLE Receipts 600, shipments 10,000. Market steady. Exports 6 40a 6 85, good to choice shipping steers 6 10a 6 50, common to medium 5 20a 6 00, grass Texans 3 80a 4 90, corn fed do. 5 00a 6 10.

SHEEP Receipts 2,200, shipments 850. Market slow. Inferior to fair 2 50a 3 50, medium to good 3 75a 4 25, choice to extra 4 00a 5 00.

The Journal's Liverpool cable says: Cattle—Best American steers 15a 15 50 dressed; beef steady at 15a 17c for good to choice.

St. Louis.

CATTLE Receipts 1,800, shipments 860. Corn fed steers firm and wanted. Exports 6 55a 7 00, good to choice shipping 6 20a 6 60, common to medium 5 50a 6 00, native grassers 4 50a 5 50, Texans 3 25a 4 75.

SHEEP Receipts 3,800, shipments 100. Market steady and firm. Best corn fed very dull, medium to good 3 00a 3 75, choice to extra 4 00a 5 50, lambs 4 50a 5 25.

New York.

CATTLE Receipts 5,600. Market dull and lower. Poorest to best native steers 5 50a 7 55, 8 cars Texas steers 5 22a 5 36, fat bulls 4 80a 5 25.

SHEEP Receipts 1,200. Market dull. Lambs weak at 5 00a 7 50, sheep 4 00a 6 00, mainly 4 50a 5 25 for sheep and 6 00a 7 00 for lambs.

HOGS Receipts 7,600. Market dull at 5 00a 5 75.

PRODUCE MARKETS.

Kansas City.

Price Current Reports:

WHEAT Received into elevators the past 48 hours 7,839 bus, withdrawn 5,925, in store 125 661. The market was panicky to day. No. 2 red opened at 79c and in five minutes dropped to 77c and closed weak, and the weakness was further manifested by the sale of June at 76 3/4c. July dropped 1 1/2c.

CORN Received into elevators the past 48 hours 20,844 bus, withdrawn 24,037 bus, in store 78,133. The market was lower by about 1/2c to day on No. 2 mixed and very dull, buyers and sellers being a good distance apart.

No. 2 Mixed, cash 44 1/2c bid, 45 1/2c asked. June 44c bid, 44 1/2c asked. July 44 1/2c bid, 44 1/2c asked. August 44 1/2c bid, 45 1/2c asked. Sept 45c bid, 45 1/2c asked.

OATS No. 2 cash, no bids nor offerings.

RYE No. 2 cash, no bids nor offerings.

CASTOR BEANS Quoted at 1 65a 1 75 per bus.

FLAX SEED We quote at 1 30a 1 35 per bus upon the basis of pure.

BUTTER The receipts are light to day and the supply of choice butter is growing light. Dairy butter is a shade firmer. Most of the creamery arriving is heated and sells for 15c. Creamery firsts bring 16a 17c. Packers are buying freely of their goods at 5a 7c.

We quote packed:

Creamery, fancy..... 16a 17

Creamery, choice..... 15a

Choice dairy..... 11a

Fair to good dairy..... 9a

Storepacked choice grass..... 7a

EGGS The supply is light and without any active inquiry; choice fresh are a shade stronger.

We quote candied at 12a 12 1/2c, uncandied 11a 11 1/2c.

PEACHES We quote Texas 50a 55 per 1/2 bus.

box; 40a 50c per pk. box. Stock held over from previous day 25a 40c according to condition.

NEW POTATOES We quote new southern consignments 3 bbl 3 00, home grown 75c 1 00 per bus.

BROOM CORN Common 2a 2 1/2c per lb; Missouri green 4a 5c; hurl 6a 7c.

Chicago.

WHEAT June 84 1/2a 85 1/2c.

CORN Cash 54 1/2c, June 54a 54 1/2c.

OATS Firm demand and a shade easier. Cash 31 1/2c.

RYE Dull at 65c.

BARLEY Dull at 62a 65c.

FLAX SEED Firm at 1 55.

New York.

WHEAT Receipts 138,000 bushels, exports 217,000 bushels. No. 2 Chicago 96 1/2c, No. 3 red, 94 1/2c, No. 2 red 90a 1 00 1/2c, do June sales 48,000 bus at 98a 98 1/2c, July sales 578,000 bus at 98 1/2a 97 1/2c.

CORN Receipts 155,000 bushels, exports 97,000. Ungraded 56a 58 1/2c, No. 2 61 1/2a 59 1/2c.

St. Louis.

WHEAT No. 2 red 1 03 1/2a 1 05 1/2c, June 92 1/2a 92 3/4c, July 90 1/2a 90 3/4c.

CORN Lower and slow at 52a 53 1/2c cash.

OATS Lower and inactive at 32a cash.

RYE Dull at 58c.

BARLEY No market.

In the Dairy.

About Keeping Butter.

If there is any one thing which, more than another, western farmers need to know it is, how to keep butter. The FARMER has often given suggestions on the subject and expects to continue so doing. We have before us an article on the subject in the *Western Rural*, which contains some good thoughts. The editor had inquiries, and in reply says that in each of the writers' cases it appears there are no conveniences for dairying at all. That is precisely the case with many of our Kansas farmers. About all that our friends have of what a dairy needs, the writer above referred to says, are cows. Some of them speak of cellars. It is pretty safe to say that there is not one cellar in a thousand that is fit to keep milk or butter in. A worse place than the average cellar cannot very well be imagined. It is damp, musty and unventilated. A little pains will do much toward making the cellar better. If it can be thoroughly ventilated, the case will be different. But thorough ventilation of a cellar cannot be accomplished without great care and the application of scientific principles. It is not enough to open some windows at the top. A circulation from the bottom must be provided. This can only be done by introducing fresh air at the bottom, and that can be accomplished only by connecting the bottom with the outside atmosphere through tubes. Then there must be means of drawing off the foul air, and this may be done by arranging funnel-shaped tubes at the top. A cellar thus ventilated will be in good shape to keep anything in, provided it can be kept for butter, at an even temperature. It must be remembered that this is what is required for the keeping of butter. The cellar must be free, too, from all odors. It is scarcely necessary to say that butter is so sensitive that it readily absorbs whatever is in the atmosphere that surrounds it. But though it seems unnecessary to say this, yet it is a fact, too common a fact indeed, that many utterly ignore this sensitiveness. If butter or milk is kept in a cellar, however well ventilated it may be, it must not be brought in contact with decaying vegetables, or their odors, or the odors of anything else. It is safest to keep nothing else in the cellar. The utmost cleanliness should be observed about the place. But it is not probable that many will take the trouble to properly prepare a cellar for this purpose; and, perhaps, it is best to provide a milk house, in which the temperature can be maintained evenly. The manner of doing this will easily suggest itself. The construction should be upon the same principle on which the common refrigerator is constructed. It should have double walls filled in between with some non-heat conducting substance. Such buildings are pretty nearly a necessity in the dairy. Half of our cheese is cured, or attempted to be cured in buildings in which there is no possible way of regulating the temperature. Whatever the temperature is outside it will be inside, for there is nothing but a thin board side. Cheese cannot be properly cured in any such way. If we expect to make the dairy profitable to the utmost length we must have suitable building, and ought to have ice. If not a building, a room in some building, can sometimes be constructed with proper air chambers, to answer the purpose.

In this connection we may notice the letter of a correspondent from Wisconsin upon the subject. He writes: "I am in the dairy business in a small way

and wish to go into it more extensively if I can make it pay. But in order to do that we must get a fair price for our butter the year round. Last winter we got from 25 to 27 cents and was satisfied with the price. But what a change! good butter is now from 13 to 15 cents, which you can see makes quite a difference in the profits. You say, hold your butter until next fall or winter. But that is where the trouble comes in with the average farmer, for if we put it in our cellars it is very apt to come out in a damaged condition. So that we are obliged to sell at last for less than we could get at first before it was damaged. What I wish to know is this: I have a well seventy-three feet deep and have a wind-mill attached by which I pump water daily into a cistern at the well. Can I put my tubs of butter in this cistern, and keep them there until next fall or winter and have them as fresh and sweet as they were when they were put in the cistern, providing I keep them under fresh water all the time?"

We think our correspondent is mistaken in saying that we advised the keeping of butter until fall. We do not remember having said anything about it. If it can be kept for better prices, of course, it is advisable to keep it. If one has the facilities for keeping it, it would not be wise, as a matter of course, to sell it for less than he could get for it at a future time. There would be some danger in the way proposed by our correspondent. If it can be kept at an even temperature, it would no doubt keep, but there would be great difficulty in doing that. We should not want to put it in wooden packages, if we tried it. If it were placed in the spring, for instance, where the water is running all the time, and the temperature about the same, the difficulties which present in the case would be avoided.

Milk Inspection in New York.

Inspector Munsell, of the Health Department, New York city, tells of the milk inspecting business in that great city:

The inspection of milk is in the hands of Dr. White, the Chief Inspector and his three assistants, Drs. Ishman, Martin and Munsell. That the work may be thoroughly and systematically done, the city is divided into four districts, one of which is assigned to the care of one of the inspectors. That part of the city above Fifty-ninth street is looked after by Dr. Ishman. Dr. White has charge of the district from Fifty-ninth street to Houston street, on the east side of Fifth avenue; Dr. Martin of the corresponding district on the west side, and Dr. Munsell of all that part of the city lying south of Houston street.

There are in the city about 5,000 milk dealers, of whom 1,300 have their places of business in Inspector Munsell's district. Last year eight of these 1,300 were convicted and punished for selling adulterated milk. Thus far this year Mr. Munsell has made about 700 inspections, and has found four dealers who are violating the law.

As showing the good effects that have resulted from the strict enforcement of the law, Mr. Munsell says that when the present system of inspection went into effect, some six years ago, one dealer in five was found to be selling poor milk, now the proportion has fallen to one in 150. In six years over \$40,000 in fines have been collected from dealers who have been convicted of violations of the law. As showing the effects of frequent prosecutions upon dealers, it may be of interest to note that in 1881 the fines collected amounted to \$12,000, and in 1882 to \$9,000, while in 1883 the amount sank to \$1,800, and thus far this year the fines have amounted to \$600.

Mr. Munsell says that more bad milk is sold in the district north of Fifty-ninth street than in all the rest of the city. From this district alone, this year, there have been over 40 cases in the courts. The milk sold in this part of the city comes in the main from the Harlem and the New York city and Northern railroads. Part of the supply is, however, furnished by cows kept in stables in that part of the district that is

not thickly settled, and these cows are not supplied with food from which good milk can be made.

The milk that is sold in Inspector Munsell's district comes almost entirely from the Erie and the New York and New Haven roads. Milk from the latter road is delivered at the Centre street depot. One morning not long ago, Mr. Munsell inspected the entire shipment of 700 cans before any of it was delivered to the dealers, and found but four cans that were not up to the standard. The worst of these stood at 92 by the lactometer test. The Erie milk is coming in very good order. Inspectors Munsell and Martin make occasional trips up the road and inspect the milk on the trailers, but have not of late discovered anything much out of the way. They are, however, watching closely some shippers whom they have reason to suspect are not shipping milk in the condition that it came from the cows.

In the city the inspectors make their visits to the stores at which milk is sold and stop the wagons in the street and examine the milk in the cans at intervals, sometimes long and sometimes short, so that dealers never know when to expect them, and as a consequence the milk sold in the city is better now than it ever was before.

When the new law to prevent fraud in the manufacture and sale of dairy products takes effect, June 1st, (1884), the inspectors will make haste to pay their respects to the sellers of condensed milk. There is reason for believing that much of the condensed milk sold from large cans is not what it should be, that before condensing it is robbed of at least part of its cream. The new law fixes a standard for condensed milk, and to its manufacturers and dealers will be strictly held.



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CUTICURA RESOLVENT, the new blood purifier, cleanses the blood and perspiration of impurities and poisonous elements, and removes the cause.

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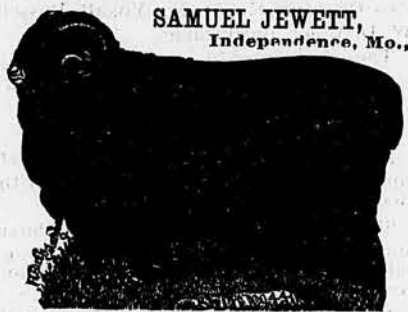
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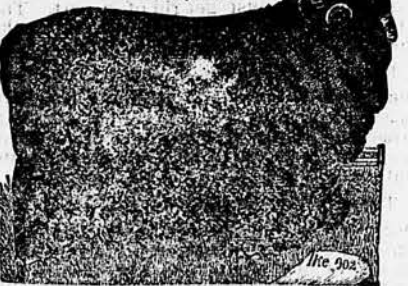
Send for "How to Cure Skin Diseases."

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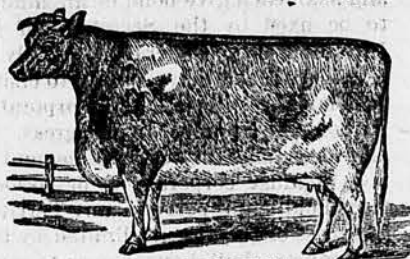
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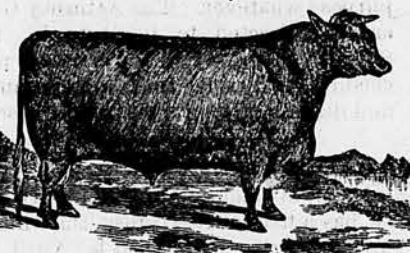
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FOR SALE—Forty Thoroughbred Pure Short-horn Bulls—Rose of Sharon, Young Mary and Princess, from 9 months to 2 years old; also 60 High grade Bu is, all Red and in fine condition, from three-quarters grade cows and pedigree bulls.

Correspondence or inspection of herd cordially invited.

Wm. Gentry & Sons, Sedalia, Pettis Co., Mo.
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BREEDERS of and Dealers in Short-horn, Hereford, Polled Aberdeen and Galloway Cattle, Jacks and Jennets. Have on hand one thousand Bulls, three hundred she cattle in calf by Hereford and Polled Bulls. Are prepared to make contracts for future delivery for any number.



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THE BREEDERS' ASSOCIATION
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1,000 Short-horn Cows,
and raise for sale each year
Near 400 Bulls.

Will sell males or females at all times as low as they can be bought elsewhere. The Annual Public Sale will be held the first Wednesday and Thursday in June of each year. Parties wanting to buy Short-horns Write to

J. M. CLAY, President, Plattsburg, Mo.;
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Breeders of Short-horn Cattle and furnishers of high-grade Red and Roan Bulls and Heifers. Specialty of Grade Polled-Angus and Galloway Cattle for Western trade.
200 choice High-grade Cows and Heifers for sale.

Mt. Pleasant Stock Farm Colony, Anderson Co., Kansas.

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I have one of the largest herds of these famous cattle in the country, numbering about 200 head. Many are from the noted English breeders, T. J. Garwathine, J. B. Green, B. Rogers, W. S. Powell, Warren Evans and P. Turner. The bulls in service are "FORTUNE," sweepstakes bull with five of his get at Kansas State Fair 1882 and 1883; Imp. "Lord Wilton" bull "SIR EVELYN" own brother to "Sir Bartle Frere;" Imp. "DAUPHIN 18th," half brother to T. L. Miller Co's "Dauphin 18th;" and "THE GROVE 4th," by "The Grove 3d."

To parties wishing to start a Herd I will give very low figures. Write or come.

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THOROUGH-BRED BULLS and HIGH-GRADE BULLS and HEIFERS for sale. Inquiries promptly answered.

WALTER MORGAN & SON,
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THE HERBRAND FIFTH WHEEL forged solid. The Herbrand Co., Fresno & O. Manufacturers. Less, low-hanging, prevents accidents from broken king bolts; examine a buggy with this improvement before buying.

The Veterinarian.

[The paragraphs in this department are gathered from our exchanges.—ED. FARMER.]

FISTULA.—In the spring of 1880 a mare 12 years old gave birth to her first colt. About the time of foaling I noticed an enlargement or swelling extending from the hip joint to the whirlbone joint, the swelling being on top of the hip. I blistered with corrosive sublimate liniment in the summer, and nothing was accomplished. In the fall of 1882 a large lump of some hard matter formed in her flank, and the swelling had increased till it was as large above the level of the joint as a joint of stove-pipe. Then the swelling extended down the limb to the hoof, and it broke on the outside, just above the hock, and ran profusely. This decreased the swelling until it was imperceptible. Some time after this the lump in flank began swelling, and I had to have it lanced. It supplicated very freely, and all swelling nearly disappeared, but in a little while the lump began enlarging again and has been running all the time. Within the last few days the swelling on top of the hip is coming back again. I would like to know what is the disease, and what would be the course to pursue in case I should have another horse so affected, whether it will avail anything or not in this instance. [The mare received an injury in some way, and fistula was the result. It is possible that some foreign body was embedded in the hip. The length of time from injury is great: nevertheless external abscess or exit of pus by nature is often very slow, and in some cases pus would never escape except by aid of surgery. No doubt the mare is curable even now in the hands of a surgeon. But it might take 3 or 4 months for treatment. Probe every sore, using a reed or whalebone probe. If necessary, cut holes open an inch or more, so as to allow of free use of probe. If any part of the sinus goes below external opening, or is sac-like, you cannot heal it until you give it a depending orifice. If there is a foreign body in there, it will go on as it has until that is removed. Another description is necessary before I advise further treatment.]

PERIODIC OPHTHALMIA.—I wish to state here that my twenty years' practice and observation proves that it is in every case caused by what are termed wolf teeth. The common practice is to take a piece of iron and a hammer and break the tooth off, knocking it out they say. The general result, you will see at once, is that the lower end of the root is left in the jaw; the result is it ulcerates same as a man's would, and being so closely connected with the eye it causes it to become weak and watery at first, later becomes covered with film and the eye generally becomes small and shrunken, and to finish up becomes blind. After the pupil of the eye becomes burst or a white spot formed over the sight or pupil it is gone past hope. But before this occurs it may be saved in almost every case by my method, which is this: I first throw the horse. After I have him securely tied, I cut the gum round the tooth. Then I take one of three different-shaped forceps, according to the shape of the tooth, and place them down on the tooth tight to the jaw bone, always using care not to pull till the horse is quiet, then pull straight with the tooth, and I nearly always get the tooth, root and all. But if I break the root, or if it has been broken either by the bit or by someone, I have instruments to take it out. For if you do not get all the root it will continue to ulcerate the same,

and nine times out of ten it will cause a horse to go blind sooner than if you let them alone. I meet men every week who say that they have no roots. For the benefit of those who think so and have never seen any that were properly extracted I will enclose some teeth for your inspection. I will say right here that they are a very hard and brittle tooth, and it is as much of an art to pull them as it is to pull the human teeth, and it requires no little skill and judgment to do it as it should be done. The best way to prove my theory is to try it. I meet men almost every day that say my horse or my colt is going moon-blind or has hooks in the eyes more generally than the pink-eye. I ask, has he not got wolf teeth? Very often they say, "No, for I looked and he has none." Now I say: Let me see. I have never yet failed to show a man the scar in the gum where the tooth is broken off and the gum grows over. By pressing hard on the gum you press the blood out; that will leave the scar red, which in all cases is just in front of the grinder on the upper jaw, generally close up, but sometimes from one-fourth to three-fourths of an inch ahead of the grinders. There is sometimes what is called a blind tooth that never comes through the gum. But that can be removed the same as the other. I will say in conclusion, remove the cause and the complaint will cure itself.

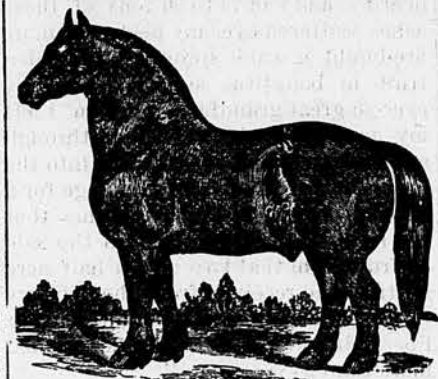
Albert Knittle, attorney for Douglas county, Kansas, has used Leis' Dandelion Tonic for a long time, and recognizes it as a valuable tonic and an efficient remedy in malarial diseases and others of a like nature.

Do not feed too much corn in warm weather if you do not wish your fowls to get too fat.

Save Your animals much suffering from accidents, cuts and open sores, by using Stewart's Healing Powder.

Bronze turkeys are the largest, tamest, most prolific and hardiest of all varieties.

PROSPECT FARM.



The two imported Clydesdale Stallions Carron Prince and Knight of Harris will stand at the stable of the undersigned this season,—the one at \$20.00, the other at \$25.00, to insure. Both horses imported from Scotland in 1882 and recorded in A. C. S. Book, pages 364 and 370.

The two High-grade Stallions, Donald Dean and King William, will stand at same place at \$10.00 each to insure. These two horses were sired and grand-sired by noted imported Clydesdale Stallions. Farmers, come and examine these horses for yourselves. STALLIONS AND MARES FOR SALE.

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Three miles West of Topeka, 6th St. road.

MARQUIS 2D,

A Pedigree English Shire Horse,

Stands for the season at Fowler's Ranch, Maple Hill, Kas., on Tuesdays, Wednesdays and Thursdays; at the West ranch on Mondays, and at St. Marys, on Saturdays, in each week.

TERMS OF SERVICE:

To insure, \$25,—payable when mare proves in foal or if owner disposes of her. Single services \$15,—payable to man in charge, at time of service



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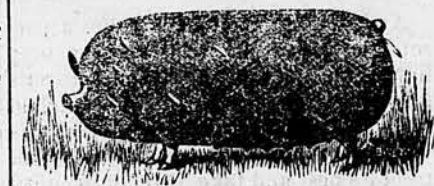
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I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars headed by the splendid prize-winner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in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

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WELLINGTON HERD ENGLISH BERKSHIRES.



The Wellington Herd of well-bred and imported Berkshires is headed by Hopeful Joe 4888. The herd consists of 16 matured brood sows of the best families. This herd has no superior for size and quality, and the very best strains of Berkshire blood. Stock all recorded in A. B. R. Correspondence and inspection invited. Address

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Herds of pure-bred and high grade Short-horn Cattle, Poland-China Swine, Shepherd Dogs and Plymouth Rock Fowls. The best herd of Poland-China west of the Mississippi river, headed by Black-foot 2261, Young U. S. 4491, Laudable vol 6 (own brother to Look-No-Farther 406) and Seek-No-Farther (a son of Look-No-Farther). All stock sold eligible to the Ohio Record. Send for new catalogue.

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River Side Herds POLANDS and BERKSHIRES.

With Jayhawk 3895 and Quantrell 24, a perfection pig at the head of my herd of Black Bear Sows, I think I have the three most popular strains of Poland, and a fine herd of hogs as the country can produce. My breeders are all registered, and all stock warranted as represented. Prices reasonable. My stock is always ready for inspection. Call around; the latch-string is always out.

J. V. RANDOLPH,
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Stock for sale at all times.

Improved Poland-China Hogs



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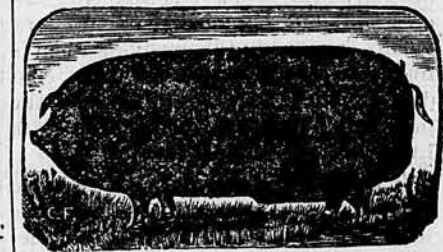
Easily fattened and early matured, showing a great improvement in form and style, especially in the head and ears.

Our breeders consist of the finest lot of Sows and three of the best Boars in the State, being descendants from the best families in the United States. Those wishing choice pigs should send orders in early as there is a very large demand for stock. Mail orders filled with dispatch. Pedigrees furnished with all hogs sold.

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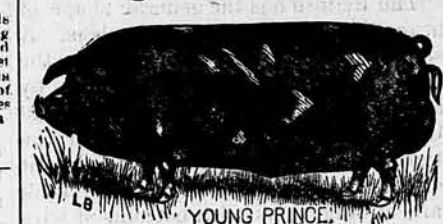
Residence, 7 miles west of Wellington, near Mayfield.



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T. A. HUBBARD,
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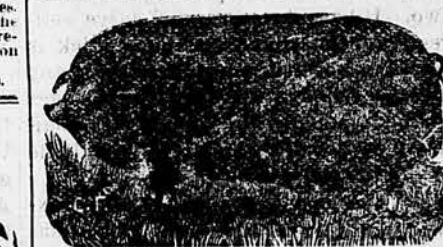


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A. C. Moore & Sons, Canton, Illinois.

We are raising over 800 pigs for this season's trade. Progeny of hogs that have taken more and larger sweepstakes and pork-packer's premiums than can be shown by any other man on any other breed. Stock all healthy and doing well. Have made a specialty of this breed of hogs for 37 years. Those desiring the thoroughbred Poland-China should send to headquarters. Our breeders will be registered in the American Poland-China Record. Photograph of 34 breeders, free. Swine Journal 25 cents. Three-cent stamps taken.

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Fully up to the highest standard in all respects Pedigrees, for either American or Ohio Records, furnished with each sale. All inquiries promptly answered.

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PIG EXTRICATOR, to aid animals in giving birth. Send for free circular to

WM. DULIN,
Avoca, Pottawatomie Co., Iowa.

BEES FOR SALE.—I have a few colonies of Italian and Hybrid bees for sale—all in good condition. Also, will have choice Italian Queens for sale at \$1.00 each during the season.

J. B. KLINE, 314 Kansas Ave., Topeka, Kas.

The Poultry Yard.

Incubators.

Taking instruction, possibly, from the turtle, Egyptians and Chinese learned thousands of years ago to hatch hens' eggs in the warm sand of that country. The practice is still continued more or less. In France, the first efforts in artificial incubation were made by adopting the hot-bed method. The eggs were placed in wooden casks and raised to the required temperature by surrounding these with manure.

But within the last fifteen years ingenuity has been at work on the subject and we have as a result a number of machines prepared purposely for hatching eggs. The same general principles are adopted in all of them. The temperature must be nearly uniform, the atmosphere must be slightly moist, particularly during the latter half of the incubating period. Heat and moisture are the essentials of success. And, following the natural methods, the eggs must be turned every day, but not shaken up. The hen shows us just what is needed in correct egg hatching, and the nearest we can get to her methods, the better we will succeed. Improvements have been made in artificial methods until it would seem that we are on the threshold of permanent success. Large establishments are now wholly engaged in this business and it is found to be very profitable when conducted in or near large towns where the product may be sold readily and with little cost of transportation.

It is like every other kind of business, it must be followed with care and close attention or failure is certain. And beginners nearly always meet unexpected disappointment. This is common in every line of life. Want of experience is, or ought to be, a standing caution.

But poultry raising, by means of artificial incubation is easily learned, and if one sets out to make a success of it, there need be no fear of final failure.

Among the machines recommended by poultry raisers these descriptions are given:

The Eclipse has the general shape of a rectangular chest placed on legs. A shallow tank for hot water occupies the upper part. The heat is furnished by an oil lamp placed beneath a small boiler, which is so connected with the tank as to secure a slow but constant circulation of water. Below the tank are sliding trays with bottoms of wire netting. The eggs are placed in these trays and warmed simply by the radiation from the tank. Ventilating tubes carry a current of cool, damp air to the under side of the eggs as they lie on the netting.

The New Centennial in form is not unlike the Eclipse. It economizes heat by having a case of galvanized iron wholly surrounded by another case of wood with an air space between the two. It has, also, a very effective self-regulator by which the lamp wick is raised or lowered so as to maintain any desired temperature. In this the eggs are kept moist by the vapor from a shallow pan of water which receives a little heat from the return flue.

The Reliance is similar to the last, except that, instead of a water tank, it has a soapstone radiator, heated by hot water pipes imbedded in it. All three of these incubators are of American manufacture. English poultry writers have an entirely different set of favorites. Experience has shown that there are two or three conditions essential to success with any of these machines. The temperature must be kept as near as possible to 103 deg.; a variation of 10 deg. either way, for more than a few

hours, is likely to prove fatal. The eggs must be aired and turned twice a day; this is only following nature. A slight moisture must be maintained in the box; otherwise the pellicle, or shell lining becomes hard and tough, and the chick dies in the shell.

With either of these incubators Prof. Cowles thinks that any careful manager, after a little experience, may safely count on seventy chicks, or more, from a hundred eggs. Yet their chief value lies in the fact that they are just as ready to hatch in December or January as in May. This enables the poultry raiser to have a thousand chickens out of the shell before his hens have begun to think of setting. For those who carry on the business on a large scale, and have facilities for keeping the young chickens warm, the operation is a profitable one; for others, the hens themselves will prove the most satisfactory incubators.

The care required after the hatching process has successfully terminated is very important. The methods of the natural mother must be followed as nearly as possible. The young chick must have fresh air, but it must be warm, quiet, and slightly moist, and soft feed must be near at hand for use as fast as the little fellows can get at it. And the food must be wholesome and fed in small quantities at first. The operator's inventive powers will be called into play in providing good quarters for the young birds as they leave the shell. False mothers have been invented with clucking attachments, but probably all that is required is pure, warm, still, moist air and a little fresh feed. Experience will be the best teacher. However one may profit by the recorded experience of others. Books are now in print, and papers are published weekly, devoted to poultry. They will be found almost as helpful as incubators in the business.

And then, in every case where a person purchases an incubator, he may have the benefit of the manufacturer's knowledge of rearing artificially hatched fowls by asking for it. Every farmer's wife knows how to remove a fresh chick from its nest and take care of it until the other eggs are hatched, and this is several days sometimes. It sometimes happens that chicks are raised wholly by hand. They are kept wrapped up in warm rags until they are able to "get about," and then, for two or three weeks they are put back into their pen every night. We have known chicks to be raised in this way often that never had any "mother." If the same care and similar methods are adopted with considerable numbers of chicks, similar success will attend the operation.

Where the business is to be followed on a large scale, houses must be specially prepared with facilities for heating and for all the necessary departments of care, all of which will, of course, be subject of thought and consultation when the work has to be done.

Wood Ashes in the Orchard.

In a paper read before the State Horticultural Society Prof. Kedzie, of the Agricultural college, offered some good suggestions on this subject. Among other things he said: "Among the most common and most valuable of special manures I place wood ashes. The amount of ash and its relative composition vary with the kind and part of vegetable burned, but we may safely take the ash of the body of a beech tree as representing the average composition of wood ashes. One bushel of ashes represents about two and a half tons of dry body wood. Wood ashes contain all the required elements of plant nutrition except nitrogen. One

hundred pounds of wood ashes contain 16 pounds of potash, worth 80 cents; 34 pounds soda, worth 2 cents; 67 pounds of lime and magnesia, worth 8 cents, and 54 pounds phosphoric acid, worth 26 cents. If we had to buy in market in the cheapest form the manurial materials contained in 100 pounds of ashes, the cost would be \$1.16. Can you afford to throw away such valuable materials, or sell them for sixpence a bushel to the soap-boiler? No argument is needed; here is the value and there is the selling price. Draw your own conclusions.

"Even when the ashes have been leached to the last degree, till every soluble thing has been washed away, they still have value, for the phosphate and carbonate of lime and magnesia remain, and they are worth 34 cents for 100 pounds, or \$6.80 a ton. The market-gardeners of Long Island knew their value and sent ships 1,000 miles to bring the ashery heaps of Maine, even when they had to draw the ashes five miles before reaching the ships. But I will not consume your time to tell how they do things down East, but I will give you my experience with leached ashes in Eaton county. More than 30 years ago I settled in Vermontville and bought a lot for my home, or as I expressed it to my wife, I "fenced in two and a half acres of paradise." The soil was a stiff boulder clay, and had been exhausted by a rotation consisting of wheat stubble and wheat. Here I planted every fruit-bearing tree and shrub of superior value, and in the selections of fruits "I withheld not my heart from any joy." I kept a cow and three horses, for in the thinly-settled country horse-flesh had to bear the brunt of hard work. I had plenty of stable manure and used it freely. But I soon found that excess of stable manure gave my pear trees the fire-blight, made my apples run to water-sprouts and suckers, and my grapes ran wild in wild-wood. I then turned my attention to a heap of leached ashes near by, and had 75 to 80 tons of these ashes scattered over my field. No more fire-blight or water-sprouts, but golden fruit in bountiful supply. Like my ever-so-great grandfather, Adam, I left my paradise, which passed through several hands, and at last came into the possession of Mrs. B. in exchange for a 160-acre farm. Her son told me that she received more money from the sale of fruit from that two and a half acre lot than she received from the 160-acre farm. The soil has not forgotten that liberal dressing of leached ashes applied more than 25 years ago."

A Great Gun Cast.

The largest gun ever made in this country was cast lately at the South Boston Iron Works. The work was done in a pit forty feet deep and about twelve feet wide, in which had been placed a mold about four feet in diameter. In the interior of this mold was placed the core, consisting of a long wrought-iron flue, around which was placed a layer of rope, and over this a thickness of sand and cement. Into the interior of this core, during the casting, cold water was run in by a pipe down one side, and forced out boiling hot on the other side. Near the pit were located three furnaces, each of which contained about thirty-six tons of molten iron. Connected with each of the furnaces were long troughs for the conveyance of the hot metal to a large iron tank a few feet from the pit, known as the pool or mixer, and from which two short troughs run into the mold. At about 4:30 the foreman gave the signal to let the mass run, and immediately there was a flow of fiery liquid from each of the furnaces. It took twenty-four minutes to fill the mold to the brim and those in charge announced that, as far as it had gone, the casting had been very satisfactory. While the iron is cooling, the stream of cold water will be kept running through the core, and a wooden fire will be kept burning outside and all around the flask. The core will be removed as soon as the iron is cooled sufficiently, and the latter will probably be in a condition to be worked upon by Tuesday. The casting was made with the breech up, and, in order

that the gun may be perfectly strong, the mold is constructed about five feet longer than what the gun is intended to be finally, and the part not wanted is cut off. When completed it will be about thirty feet in length, of twelve-inch rifle, weighing 212,000 pounds, and worth \$28,000, about half the sum a steel gun would have cost. It is calculated to throw a projectile six miles.



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THE STRAY LIST

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1880, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper free of cost, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

How to post a Stray, the fees fines and penalties for not posting.

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

Unbroken animals can only be taken up between the 1st day of November and the 1st 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, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

Any person taking up an estray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

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, but 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 appraiser, or two of them shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

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

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

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

Strays for week ending June 11, '84

Atchison county—Chas H Krebs, clerk.

HORSE—Taken up by Lewis Brothers, of Lancaster tp, (Huron P. O.) May 23, 1884, one bay horse, about 15 hands high, 10 or 12 years old; valued at \$50.

PONY—By same, one sorrel horse pony, 3 white feet, white on forehead, rope on neck, branded on right shoulder and both hips, harness marks, age not given; valued at \$15.

Ottawa county—W. W. Walker, Jr., clerk.

MARE—Taken up by B M Skeen, in Grant tp, one gray roan mare, 3 years old, silt in right ear; valued at \$50.

Chase county—J. J. Massey, clerk.

HORSE—Taken up by J D Riggs, June 2, 1884, one light bay or brown horse, 10 years old, both hind feet white to pastern joint, some white in forehead, branded 99 on left hip and a brand like "L" on left shoulder; valued at \$50.

Cowley county—J S Hunt, clerk.

MARE—Taken up by G W Herbert, in Silverdale, May 2, 1884, one bay mare, 15½ hands high, star in forehead with white stripe running down to nose, left hind foot white, white speck over sight of right eye; valued at \$50.

Beno county—W. E. Marshall, clerk.

PONY—Taken up by George Schlickan, in Haven tp, May 17, 1884, one brown horse pony, 10 years old, branded 8 on right shoulder.

Pottawatomie county—I. W. Zimmerman, clk.

BULL—Taken up by W C Walker, in Blue tp, May 21, 1884, one yearling bull, red-roan, with white spots behind the shoulders, white spot on left hip, star in forehead; valued at \$35.

Davis county—P. V. Trovinger, Clerk.

MARE—Taken up by W S Clarke, in Jackson tp, May 5, 1884, one brown mare 4 years old, about 15 hands high, narrow strip in face; valued at \$75.

Strays for week ending June 18, '84

Morris county—A. Moser, Jr., clerk

MARE—Taken up by H O Phelps, of Ohio tp, May 29, 1884, one bay mare 2 years old, black mane and tail 2 white hind feet, branded H. N. on left shoulder, has had a brand there before; valued at \$68.

Jefferson County.—J. R. Best, Clerk.

HORSE—Taken up by J L Speer, in Kentucky tp, May 26, 1884, one bay horse or pony, about 14 hands high, about 14 years old, supposed Mexican brand on each shoulder, right hind foot white nearly half way to knee, has saddle and harness marks; valued at \$45.

HORSE—By same, one bay horse, about 7 years old, about 14 hands high, heavy mane, has saddle and harness marks; valued at \$35.

Crawford county—Geo. E. Cole, clerk.

COLT—Taken up by T E Lamb, of Baker tp, May 28, 1884, one sorrel colt, 2 years old, about 14 hands high; valued at \$50.

MARE—Taken up by N W Slifer, in Crawford tp, June 2, 1884, one roan mare pony, about 14 hands high, branded M. on left shoulder and hip, also with cross on right shoulder, scar on withers, supposed to be 15 years old; valued at \$45.

Douglas county—Joel S. White, Clerk.

HORSE—Taken up by T C Blankenship, Clinton, Clinton tp, May 19, 1884, one black mare, about 16



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Strayed.

From the subscriber, 3 miles southwest of Leavenworth, evening of May 10, 1884, team of small horses. One bay, light on hips, much darker on shoulders, age about 10 years, has rather large head; other very dark, nearly black, has very heavy mane, tail and foretop, age about 6 years, has Texas brand. Both have collar and saddle marks. A liberal reward will be paid for their return or information where they may be found.

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Cultivation of Roots.

When roots are grown as a part of a rotation of crops, a writer in the *Farm-er's Advocate*, says it is usually supposed that "it makes no difference what roots are used. This is an error, for even turnips and mangels possess quite distinct characteristics, the only quality they have in common being that both are useful as a means of liberating the soil from the tyranny of noxious weeds. But keeping the land clean is only a small factor in the benefits of a rotation. It is generally supposed that a shallow crop should not follow a deep-rooted one, or *vice versa*, and that one exhaustive crop should not follow another in consecutive order. To say that a crop is exhaustive is as definite as to say that one food contains more nutriment than another. Clover, for example, takes large quantities of nitrogen out of the soil, but leaves it richer in nitrogen available for wheat. An excellent crop of wheat will be produced after the land is impoverished by beans; and, under many conditions, a soil exhausted for turnips will produce an abundant growth of mangels. A so-called exhaustive crop should not be regarded with dread; indeed, the more exhaustive the crop the greater will be the gain, for the profits in any case represent the difference between the price of the unmanufactured material in the soil and that of the finished article in the crop. However, there is some meaning in saying that mangels are exhaustive, for they readily take up all the most essential constituents of plant food; but this does not necessarily imply that they require a liberal general manuring. Being deep-rooted, they get their mineral constituents from the sub-soil, so that they are most benefited by a nitrogenous fertilizer; while turnips, being shallow-rooted, require phosphates. Turnips contain much potash, but this does not imply that they require this kind of manure, for if there is any in the soil they take it up very readily; but they feed poorly on phosphates. Farm-yard manure is good for all roots, but farmers sustain great losses in applying so much, instead of using half the quantity, supplementing it with fertilizers. Besides, it is a usual custom to apply the manure of the whole rotation to the root field. This practice is exceedingly objectionable; for, although a large crop of roots may be produced, other crops reap less advantage. Large roots contain a much less percentage of nourishment than smaller ones, having much more water and woody fibre. Small roots may contain 10 per cent. less water than large ones, are more digestible, require less labor and storage, and have better feeding properties. Instead of putting all the dung on the roots, it is better to apply some of it to other crops, or use it as a top dressing for meadows. Mangels require more heat for their development than turnips, the latter flourishing best in a cool, moist atmosphere. These crops should be alternated with carrots, beets and parsnips. Both carrots and mangels make excellent food for horses, and parsnips are best for dairy cows. The latter may be left in the ground all winter and fed in the spring, thereby preparing the cows to go to pasture earlier. All sub-soil-feeding roots may be manured like mangels."

A duck is always hungry and never refuses a meal.

The latest remedy for rats is to sprinkle cayenne pepper in their holes.

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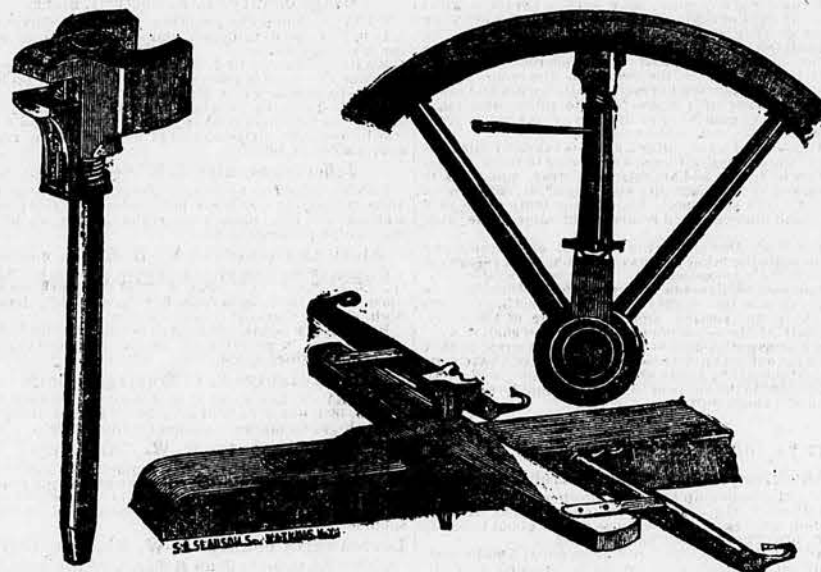
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Consisting of a Jack Screw, Tire Tightener, Adjustable Wrench and Bolt to hold on the doubletrees. As a Jack Screw Tire Tightener, it is the most complete implement ever invented. The principle of tightening tires by swelling the fellos and putting washers on the shoulder of the spokes is recommended by the "Scientific American," "American Agriculturist," and also by the largest wagon manufacturers in the United States. The price is \$1.50 at the factory, and if you cannot get them at your hardware stores write to The Dimon Implement Company, Fort Scott, Kansas. Agents wanted where it has not been introduced. It sells at sight. Twenty-five sold by one man in one day. Sent by express on receipt of price, \$1.50, to any place in the United States. Farmers who have a little spare time can sell in their neighborhood from 100 to 200 in a month's time. This Implement was invented by a practical farmer. A big discount to agents.

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It will bind more grain to the pound, with
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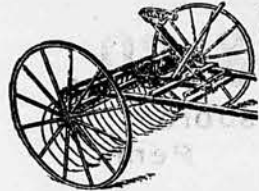


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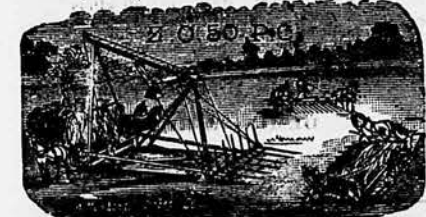
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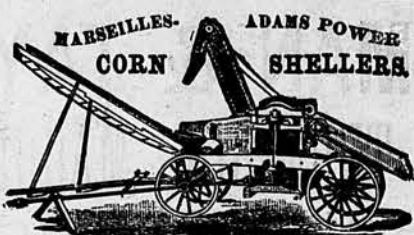
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Including an \$8.00 set of extra attachments of 15 pieces and needles, oil and usual outfit of 12 pieces with each. Guaranteed perfect. Warranted 5 years. Handsome, durable, quiet and light running. Don't pay \$30 to \$50 for machines no better. We will send ours anywhere on trial before paying. Circulars free. Save \$15 to \$35 by addressing
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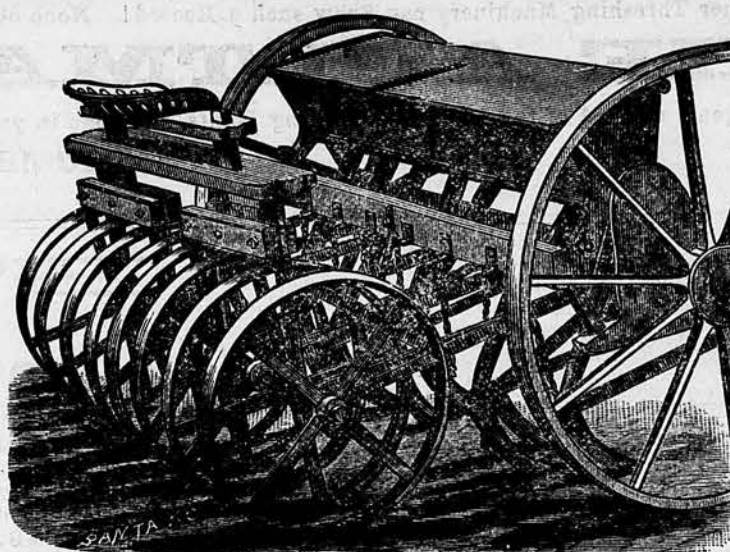
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Smith's Roller-Attachment!

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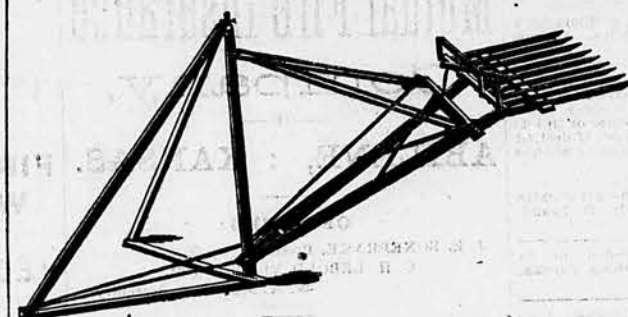


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Made a Certainty by the use of Smith's Roller-Attachment for Seed Drills.
The soil is firmly pressed on the seed, causing the soil to adhere to the seed, which greatly assists germination. The compactness of the soil retains the moisture, preventing injury by drought. Requiring less than one-half the seed usually sown, from the fact that none is wasted, either by a failure to sprout in the fall or by winter-killing, by pressing the soil firmly on the seed in track of the drill-hoe as it is being sown by the drill, leaving a wheel-track for the grain to grow in, which locates the wheat plant 2 to 4 inches below the general surface of the field, causing the plant to be covered by the drifting soil, it being pulverized like flour by the early spring weather, when is the most destructive weather that wheat has to pass through. The Roller-Attachment has been perfected in every respect, and we guarantee all that we represent for it.
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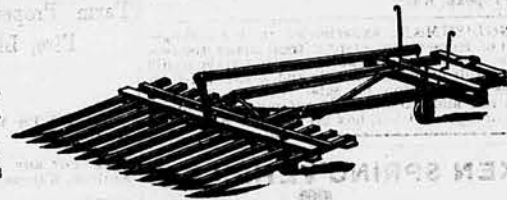


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Hay & Straw Stacker.
Simplicity of Construction!
No Engineer Required!
Any Farm Hand Can Run It!
Light Draft and Perfect Operation!
CAPACITY of STACKING FROM 75 TO 100 TONS PER DAY!

The MEADOW KING STACKER saves time and labor. It dumps the hay evenly over the stack, just where you want it. It is easily operated. Two stacks built at a time if desired. It sells for less money and will do more and better work than any other Stacker in the market.

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Will do more and better work than any other Rake sold. Takes the Hay from the Swath.
It is the cheapest and best Rake made.
One man can rake from 20 to 30 acres per day.



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For full particulars and information concerning our Machinery, address
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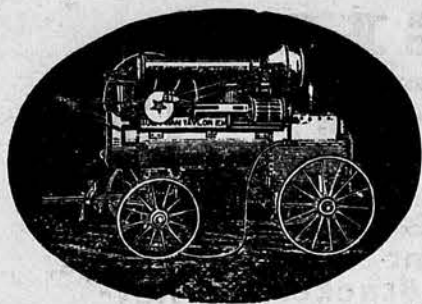
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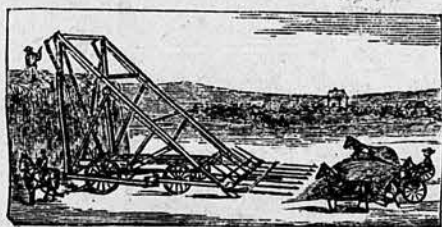
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No other Threshing Machinery can Show such a Record! None other is as Safe and Profitable for the Farmer and Thresherman to Tie to as

THE AULTMAN & TAYLOR.

Agents at most of the Important Trading Points. If none in your locality, please write us direct. Handsome Descriptive Pamphlets Free.

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It is the only Stacker that will Handle Hay Successfully in Windy Weather! It is the only Stacker that will Throw the Hay always on the Stack and not Scatter it! It is the only Stacker a Farmer will Always Buy after Examining it Thoroughly in Comparison with Others!

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Fire, Lightning, Tornadoes and
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AGENTS WANTED in Every County in Kansas.

For any information, address the Secretary, Abilene, Kansas.

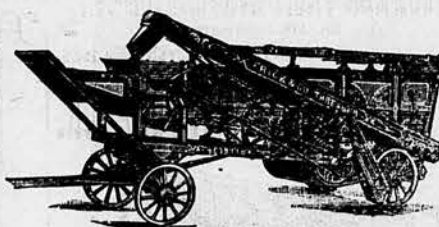
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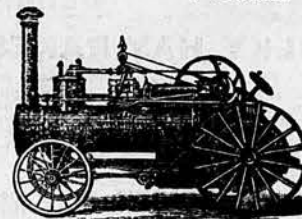
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