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THE KANSAS FARMER.

E. E. EWING, Editor and Proprietor,
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E. E. EWING,
Editor and Publisher,
TOPEKA, KANSAS.

The Rainfall in its Relations to Kansas Farming.

The following article is condensed from a very able paper on the subject of rainfall on the plains, read before the Kansas Academy of Science, on the occasion of its last meeting, November 12th, 1880, by H. R. Hilton, a gentleman of this city. The article manifests much research and careful study of the subject, and will not fail to attract the attention of the student of meteorology.

In passing over the state of Kansas from east to west, we find that a gradual change in the soil takes place—that of eastern Kansas being as distinct from the soil of the western counties as is found in the climate of these respective localities; while in central Kansas we find the soil to be a compromise between the two extremes.

The soil of eastern Kansas is a black loam, resting on a clay formation; that of central Kansas, a dark sandy loam, resting on a porous marl clay formation; while that of western Kansas has a still more sandy surface soil and more porous subsoil. This is the general subdivision subject to occasional variations. As a rule, the surface soil grows deeper and the subsoil more porous as we pass from the east towards the west.

The rain-fall is graduated from east to west across the state with as much regularity as the soil, the precipitation being about one-third greater in eastern Kansas than in western, and about one-fifth greater than in central Kansas, but here a law of compensation enters in to modify this difference, the moisture absorbing and retaining qualities of the soil being much greater in central and western Kansas than that of the eastern portion of the state. As an illustration of this point, let us take a tract of cultivated land with a black loam surface soil one foot deep, resting on a clayey subsoil. On this tract of land two inches of rain falls; one-half is sufficient to thoroughly saturate the surface soil down to the clay—the balance is rejected for want of capacity in the soil to store it, and in consequence this surplus flows off into the stream.

Let us now take another tract two feet deep of sandy loam resting on a porous subsoil, on which two inches of rain falls. This soil having double the storing capacity of the tract first named, receives all the rain, and instead of wasting half, stores the full amount for future use.

The natural deduction from this would be that the soil two feet deep, storing a double supply of moisture, will be more than twice as long in parting with it, not only because it holds more of it, but because it is stored further from the surface and from the influences of the sun's heat, drying winds, and consequent evaporation.

The amount of rain-fall sufficient to raise crops in one locality may prove deficient in another, and the experience in improved agriculture is that a well-drained and deeply pulverized soil, requires a much less quantity of rain than a tenacious soil, or one that rests on an impervious subsoil, that prevents free drainage. Had time permitted the lecturer would have illustrated this very important fact by a series of glass tubes fitted with different soils, showing the great absorbing qualities of the soils of Kansas, whose power in this respect increases as we go west, adapting them, it would appear, by a providential arrangement, to the diminished rain-fall of the interior of the continent.

The source of our water supply is mainly in the Gulf of Mexico. This supply is transported hither in the form of aqueous vapor by means of the great aerial currents that flow northward from the Gulf with so little variation during the summer months, and is here precipitated in the form of rain. Part of this is received and stored in the soil for the use of plant life, part is returned to the atmosphere by evaporation, and part is drained off into the streams, and carried back to the ocean, where it is again evaporated and returned to us by the aerial currents. Thus our water supply is making a continual circuit—flowing to the ocean as water, and returning therefrom as vapor.

As the wind-currents are the mediums of conveyance of moisture from the ocean to the land, a knowledge of the laws that govern their direction is an important factor in the solution of our probable rain-supply.

The summer winds of Kansas are mainly southerly, those from the southeast and south predominating over those from the south west.

During the winter season, the winds blow from all points of the compass, the prevailing

direction being from the west, northwest and north. The summer winds from the south are generally humid. The northerly and westerly winds are generally dry.

The steadiness of the wind breezes from the south during the summer season may be attributed to two causes. One, the trade winds from the northeast flowing southwest toward the equator, south of the 30th parallel, strike against the mountain chain of Central America, and are deflected to the northwest along the eastern slope of the mountains, and making a grand curve, return over Kansas as a south or southwest wind. The other cause is the monsoon influence of the heat radiating from plains which attracts the moist and cooler breezes from the ocean. These come to us as south and southeast winds. All of these southerly winds carry more or less moisture.

The same influence that brings to the Mississippi Valley states, parallel with Kansas, their supply of moisture, brings it to Kansas.

Our rain-fall is less, simply because we offer less favorable conditions for precipitation. Supply these conditions and our rain-fall is measurably comparable with those states. Where the rain-fall of Kansas is deficient, it is more a lack of the necessary conditions of soil, vegetation and local evaporation than of lack of humidity in the aerial currents passing over. The latter are rarely wanting in moisture during the summer months. The conditions necessary to wring this moisture from the atmosphere are conspicuously absent over a large area of Kansas, and these are: Deeply plowed and well cultivated fields, growing crops, larger areas of trees, ponds of water, and ranker vegetation of all kinds more generally distributed. With these supplied, the question of the sufficiency of our rain-fall will not be such a vexatious one as it is at present.

A comparison of the climate of the eastern half of Kansas, before and since it has been brought under man's civilizing influence, affords strong proof of the climatal changes brought about by the settlement.

What Kansas is to day west of the ninety-ninth meridian of longitude, all of Kansas lying west of Topeka, was twenty-five years ago. Then the buffalo grass covered all the prairies, except along the streams, as far east of Topeka. Vegetation was scant, as the freighters across the plains in those days can testify. Immense herds of buffalo kept the surface tramped hard, and together with the sun-baking process that it underwent, rendered the soil impervious to rain, which it shed like a shingled roof. Prairie fires aided this petrifying process by burning off the sparse vegetation almost annually. Hot winds were a consequence of this exposed heat-radiating surface. The principal rain supply of the summer months was through the medium of thunder storms of great severity. Precipitation took place at a high elevation and was very rapid.

Gentle showers and genial rains, such as we are now frequently favored with, were then very rare. During the first ten years, farming was attended with many difficulties and discouragements on account of the seasons, and few believed that the frontier of settlement could ever be extended west of Topeka, except, perhaps, a short distance along the valleys. But in spite of these many discouragements of the climate, the pioneer settlers ventured first just outside the Missouri Valley, then gradually westward, step by step, mile by mile, and each year saw a little further advance made upon the Great American Desert, until now we find the land possessed for three hundred miles west of the Missouri river. And what has been the consequence of this possession? The plow has been actively at work, and the water-shedding roof on over 8,000,000 acres of land has been torn up; the soil has been tilled, and a store-house provided for the rain-fall that was formerly wasted. Forest and fruit trees, millions in number, have been planted, proving a valuable climate ameliorating accessory to the cultivated soil and ranker plant growth.

From these combined causes came an increased humidity of the atmosphere, and a more general diffusion of moisture from the new water supply held in reserve.

Increased humidity was rapidly followed by plants and grasses that find their best development in a humid climate. The tall, blue-stem grass that could not withstand the dry, arid climate of the plains, now follows in the wake of the settlements, and takes possession of the soil, on which the short, wiry buffalo grass had so long flourished, because it alone was capable of sustaining life on a limited supply of moisture. The tillage of the soil and growing of trees

made the first breach in the arid climate—moisture was sufficiently increased to favor the growth of the blue-stem grasses. When these took possession I believe their influence was greater than all other causes combined, because by covering the major portion of the country with a heavy coating, that greatly reduced radiation, they removed one of the most stubborn agencies that the pioneer had to contend with. It also, by penetrating the now shaded soil with its strong roots, caused the former surface-hardened roof to leak, and enabled the soil to drink in and retain moisture that had previously been denied it.

Cultivation, tree-planting, mulching, change of grasses, prevention of wide-spreading and destructive fires—these are the great agencies that have wrought such a wonderful change in the climate of the eastern half of Kansas. Even if no more rain falls on the earth now than in the early days of the state's history, it is better distributed throughout the season, we have more gentle showers, more general rains, and while we may have as many thunder storms, they are not marked with the severity of the years that preceded the civilization of our soil and climate.

Moist air is said to be three-fifths lighter than dry air at the same temperature. Cold dry air possesses greater density and weight than hot dry air.

In the pre-civilized days of Kansas, when vegetation was very sparse, the sun's rays poured down upon the unprotected surface, which owing to its hardness, absorbed the sun's heat to a very limited extent and instead threw it off into the surrounding atmosphere, raising its temperature proportionately. The effect of this increased temperature was to set the air in motion. Cooler air rushed in to fill the vacuum to be again heated and kept in motion. There being comparatively no moisture in the ground to evaporate and moisten the surrounding air, it remained dry, and being of greater density than the moist currents above, a local stratum of hot air was formed between this moist current and the earth's surface. Being by reason of its greater weight unable to force its way through the light air above, its motion became lateral instead of upward, and on account of this lateral motion, the air, in passing over a large area of heated surface, became intensely heated. With the increased temperature came increased velocity, and hence the hot winds so prevalent on the plains many years ago, and now occasionally experienced on and beyond our frontier settlements.

My theory is that this stratum of hot dry air next the earth's surface, insulates the ground from the moist aerial currents passing over, and is a bad conductor of electricity.

If I am correct in my theory of the stratification of the atmosphere, it is obvious that in order to change the climate we must remove the insulating stratum of dry air, and bring the earth and the moist currents of air more nearly in contact with each other.

We know that eastern Kansas had at one time a climate in many respects similar to that of western Kansas of to-day. We know that the climate of one-half of Kansas has been changed by the civilizing influences of man. Our soil has been surrounded by a new atmosphere.

The tendency of thunder storms to follow streams and timber belts may be attributed, I think, not so much to the elevation of the tree itself above the ground, as to the greater amount of humid air that is ascending from such timber belts, affording the most favorable conducting medium. Anything that will aid in increasing evaporation, will aid in establishing better communication between the clouds and the earth, and insure a greater frequency of local showers during the summer season.

Many have the impression that by increasing the local evaporation, we really provide the moisture from which we receive the rain. This, I think, a fallacy. We will undoubtedly get a small percentage of the amount back again in the form of rain, but we must depend mainly on the aqueous vapors brought to us from the Gulf of Mexico for our main supply of rainfall. The local evaporation is valuable to us because it furnishes the conditions necessary to wring from the atmosphere the moisture we want.

The water supply of timbered countries has been reduced by removing the timber, and again increased by replanting. Yet the annual supply of moisture in the atmosphere was not materially different in the years of a short water supply from those of abundance. The removal of the timber removed one of the essential conditions of rain precipitation, viz:

local evaporation. The replanting of the timber was simply the restoration of the desired condition.

Our western farmers have been experimenting in the past few years, and the stimulating effects of the recent drouth has not been without fruit. New discoveries are being made each season of some new plant more especially adapted to the climate and soil. The rapid development of the Egyptian or rice corn in the past two years, is a notable instance of this. The success and value of this new crop and its ability to stand even as severe a drouth as that of this spring, has been shown beyond a doubt.

The successful and profitable manufacture of sugar from amber cane has been fully demonstrated by Mr. Bennyworth, at Larned, Pawnee county, this season. Broom corn is a successful crop in western Kansas, and one that, like sugar cane, encourages home manufacturers.

In order to get the most advantages out of their present rain supply, farmers must plow deep; they must get below the hard upper crust; they must thoroughly pulverize the soil so that it will act as a mulch, and then they will increase the moisture-storing capacity of their soil and practically make a great increase in the rainfall, by utilizing it to the fullest extent.

No one questions the fertility of the soil of Kansas, and owing to its fine natural drainage it is less affected by excessive rains or excessive drouths, than the heavy soils of the Mississippi valley states. Our rainy season is our crop growing season; our dry season is our stock feeding season.

How to Tell a Horse's Age.

I will take it for granted that most farmers can tell a young horse from an old one; but to tell accurately the age of a 5-year-old horse from a 6-year-old and upwards, say to thirteen, is something that men that handle horses, or the majority of them, cannot do. If a colt is not five years old he has not a developed mouth; his corner teeth are not of full size. A colt five years old has a full set of teeth or nippers, and the black spots on the surface of nippers are called cups. The two center teeth below are the first to develop, consequently the first to show signs of decay. If the horse is six years old the cups disappear from the two lower center nippers first; at seven from adjoining nippers; at eight from lower or outer corner nippers; at nine cups leave two center nippers above; at eleven cups leave adjoining teeth; at twelve outer or corner teeth above; at twelve horse has smooth mouth from cups that are black spots on surface of nippers; at thirteen horse's tusk on inside will be full and round same as outside. Twelve years is as far as age of mare can be told with certainty, as they seldom have tusks. The above will apply to horses and mares that have smooth teeth. A shell-tooth horse will appear about two years younger than he is. To distinguish shell-tooth horse from smooth-tooth, the upper edges of shell-tooth will show very jagged or uneven. The same rule will hold good for mules.

HENRY BUTLER.

If the writer discovers several inaccuracies in his article, he will attribute them to the very difficult manuscript he sent us. Correspondents will confer a great favor if they will use care in writing. Give plenty of room for the words, and avoid packing them closely together, which makes a M. S. often very difficult for compositors to set, and consumes much more time than it should. Aim to write an open hand, and the letters are then apt to be perfectly formed and the M. S. easily read.

Riverside Stock Farm.

ED. FARMER: Please discontinue our advertisement, as we have sold all the stock we can spare, and still the inquiries keep coming in. We are well pleased with our investment in your paper, as it has sold the most of our stock, although we had two other advertisements in county papers.

We shall again patronize your paper in the spring of '81 on a larger scale, as we will at that time have more stock to sell than ever before, as we have increased our herd by selections from the herds of the best eastern breeders, such as C. W. Jones, of Richland, Michigan, L. N. Bonham, of Oxford, Ohio, T. M. Revel, of Indiana, and others. There is an immense demand for pedigreed swine of good, individual merit. MILLER BROS. Junction City, Kas., Nov. 22d.

The Farm and Stock.

History and Description of Noted Breeds of Cattle.

This paper was prepared by F. D. Coburn, author of "Swine Husbandry," for the last quarterly report of the State Board of Agriculture of Kansas. We observe that the *Western Rural*, in republishing it, has omitted to give the customary credit, doubtless an unintentional oversight:

SHORT-HORNS.

This breed of cattle, better known, more numerous and more widely disseminated than any other, originated in the northeastern counties of England—mainly in the counties of Durham and Yorkshire, in the valley of the river Tees, from which fact they have been known the world over as Durhams, and in many localities, in an early day, as Teeswater cattle. As early as 1750 the cattle of that region had considerable reputation for large size and as good milkers, but were coarse boned, flat ribbed, and slow in maturing. The success of Robert Bakewell in improving the cattle known as the Long-horns, encouraged the breeders of the Teeswater cattle to efforts for their improvement also. Among these breeders were Robert and Charles Colling, who, in 1870, were established as farmers and stockmen, and afterward became more conspicuous than any of their contemporaries in connection with their improvements in Short-horns. Charles Colling was a man of superior business qualifications, and knew the value of reputation and notoriety for his stock; hence, in 1796 he selected and fitted for exhibition a steer that was transported over England and in some parts of Scotland in a large wagon, as a show. This was the animal known as the "Durham ox," and weighed, alive, when six years old, 3,024 pounds. Soon after this, Robert Colling fed a beautiful thoroughbred heifer, and sent her for exhibition through many counties. This was known as the "white heifer that traveled." Her estimated live weight was 2,360 pounds, and profitable dead weight, 1,820 pounds. The exhibition of these animals, with their marvelous weight and symmetry, made the stock, from that time, the objects of wide observation and great demand. In later years, Thomas Bates and the Messrs. Booth attained great prominence as breeders of Short-horns, and their names have adhered to certain strains or families of them to the present time. From the cattle of Bates are descended the "Duchess" tribe, individuals of which have sold for higher prices than any others that ever lived.

At the beginning of the present century there had been a number of small importations made to this country, and in 1817 shipments were made into Kentucky—from which have descended the cattle known to American breeders as the "Seventeens." It is scarcely possible to conjecture the number of Short-horns that have been imported to and bred in the United States, as previous to 1845 no American herd-book was kept. The nineteenth volume of the American Short-horn Herd-Book, issued during the present year, contains the pedigrees of 3,058 bulls, bringing the total number recorded in this book to 37,368, about half of which have been entered during the last six years.

In color, Short-horns may be either red, white, or any combination of these. The red may vary in shade from a light or yellow to a very dark or mahogany, the latter at present being the favorite with many breeders in this country, while the white is least popular. In England the roan color is valued most highly. In a Short-horn the muzzle should be fine and of a yellowish or drab color; the head should be small and lean; the eye bright and mild; the forehead broad; the horns short and small; the neck small at its intersection with the head, and be joined into the shoulders without dewlap; the shoulders should be broad, full, upright and open at the tops, well mented, and full at the crops; the brisket should be thick, low, and project well forward; the barrel round and full; the back straight; the hips broad and on a level, or nearly so, with the back; the rump long, level and broad at the setting on of the tail. Added to these the belly should be full, level and even from the shoulder to the flank, which should be low and full; the thighs should be full, well let down behind in a deep twist; the legs straight and the tail fine; the skin should be of medium thickness and covered with a coat of somewhat long and mossy hair. As beef animals they mature early, and fatten readily on grass or grain. The cows vary greatly in their milking quality at present, but early in their history were valued highly for the dairy.

HEREFORDS.

The Hereford is one of the oldest English breeds, and claimed as indigenous to the county from which it takes its name, where they are bred extensively, as well as in Shropshire, Gloucester, Oxford, and some counties adjoining Hereford, in Wales.

Ever since breeds of cattle have been discussed in modern days, the Hereford has been mentioned as of ancient descent, and at least for a century past they have had more than a local reputation as cattle of great size and value; and for fifty years following 1799 the Hereford steers exhibited at the famous Smithfield stock show, have received almost as many prizes as those of all other breeds combined, which indicates their possession, at that early period, of high order as beef animals. The Herefords of a century ago are described as a deep red or almost brown color, with mottled faces. As at present bred, they are uniformly red with white face, throat, chest, belly, legs, and tip of tail, and have a white strip extending along the top of the neck and should-

ers. As a rule, the horns are somewhat hery, and in the bull standing nearly at right angles from the head. The neck is sometimes a little coarse or heavy, and the dewlap rather too prominent; the chest is wide and deep, the crops full, the ribs well rounded, and the entire front of the animal presents a deep, massive appearance. The back is straight and broad, and the hind quarters of medium length and breadth. Their legs are short for cattle of so much size; and their girth of chest is often very great.

While probably introduced in limited numbers earlier, we have no authentic knowledge of their importation to America earlier than 1816 or 1817, when Henry Clay brought two pairs of them to his "Ashland" home in Kentucky. A few years later, Admiral Coffin, of the British navy, sent a few to some friends in Massachusetts; and other small importations followed, without appreciable results. In 1840, twenty head were imported to Jefferson county, N. Y., and others again to different localities in 1852-3 and in 1861-2; but for some causes the descendants of these importations were never widely disseminated or popularized in this country. During the last decade, and especially since 1875, several gentlemen, in different states, have imported, in large numbers, the finest specimens obtainable, and now have herds of great excellence, value and uniformity. They are unquestionably valuable cattle and rapidly increasing in popularity. As a rule, crossing Hereford bulls on the common cows has given good results, the cross bred animals usually inheriting many of the more important qualities, as well as the characteristic white face.

[Concluded in our next.]

About Bulls.

There seems to have been a sort of epidemic of ugliness among bulls this season. We scarcely pick up an exchange without finding an account of some one having been injured from an attack by a vicious bull, and in almost every case it is stated that the animal had previously been uniformly gentle and docile. Of course "bull nature" has not changed materially, but somehow or other we seem to have had an unusual number of cases of this kind reported during the last few months. The fact is, there are none of our domesticated animals so unruly, so treacherous, and so dangerous as the bull; and no bull should ever be trusted without a ring in his nose, so that he may be easily controlled. No one can ever tell when the vicious nature of a bull may show itself; they are as treacherous as any animal, even of the feline race, and their proverbial sullenness may at any moment break out into positive viciousness. No breeder should permit himself to imagine that his bull will prove an exception to the rule, and we recommend that in every case the ring should be put in the beast's nose by the time he is a year old. And then, upon the very slightest indications of temper, a strong staff, with a snap attached, should be provided and used whenever the bull is to be handled. Jersey bulls are, we think, more apt to prove vicious than those of any other breed, and none of them can safely be trusted after they are full grown. The only safety consists in believing them all unworthy of confidence and in treating them accordingly. Unlike nearly all other animals, the bull has no affection for anybody; and when the fit takes him he is quite as likely to attack his attendant, no matter how kind he may have been, as an entire stranger.—*National Live-Stock Journal, Chicago.*

Wool Product.

In an article on this subject the *American Cultivator* has this to say in relation to the demand for wool in 1881-2:

There is no part of agriculture which has been liable to so severe reactions as wool. Wheat has had its seasons of extreme depression, so have corn and meat, yet farmers continued their production without any apparent abatement; but whenever wool has become severely depressed then commences an almost indiscriminate slaughter of sheep, or a very careless system of sheep husbandry, and flocks are allowed to disperse or degenerate, and we frequently find sections which were producing large quantities of wool left almost entirely without sheep. Then again comes lamentation from the farmers, and they are heard regretting their folly in allowing their flocks to degenerate or for having sold them off. There is one thing of which farmers may be certain, that manufacturers will never allow their machinery to stand idle if there is any prospect for profits, and they may depend upon it that if success attends their operations, others will always be ready to embark in a business which has been found to be successful, and that whenever there is money in wool there will always be purchasers at a price which will afford remuneration for moving it.

These remarks are made at a season which is to determine what is to be the wool crop, not of 1881 but of 1882, and we can fully assure farmers everywhere that they may look forward to that year for a demand for wool greater than will be the production. The class of wool which they ought to produce, the class of sheep which they ought to keep, should depend entirely upon location, in order to make sheep husbandry successful and profitable. Indiscriminate hitherto has been its bane. Had the adaptability of breeds to locations been properly attended to, we should not now be under the necessity of importing wool; neither should we be importing the amount of manufactured wools that we now are. A large portion of these goods would now be manufactured in the country, and a portion of our agri-

cultural productions, which are now seeking a foreign market, would have to meet a home market, where they would be consumed by those operatives engaged in manufactures, adding to the soil fertility instead of depletion. It may to some seem to be giving great importance to the question of where so simple an animal as a sheep is to be located; but however it may appear to a casual observer, location is all important, and it is a question which no farmer ought to pass by unheeded. Let this matter be properly attended to—the right breed in the right place, and we shall have as good wool, as good mutton, and as cheap, as can be produced in any country in the world, and this is the season which requires the farmer's attention to the subject.

Apiary.

Modern Bee-Keeping and the Adulteration of Sweets.

Extract from an address of A. J. King, editor of the *Bee-Keepers' Magazine*, delivered before the National Bee-Keepers' Convention, at Cincinnati, Ohio, September 28th, 1880:

The past thirty years have added more valuable information in regard to a correct practice based on the true theory of bee-keeping, and have added a greater number of useful implements than 5,000 years which preceded this period. The advent of the moveable frame hive in America marks the beginning of this wonderful era. The honey extractor soon following, swelled the tide immensely. The invention and successful use of comb foundation in its many forms completed the "trinity" of inventions out of which have sprung all the other useful appliances and practices which, taken together, constitute bee-keeping the pleasant and profitable pursuit it is to-day. Under the influence of the new system, botanists have ransacked the entire floral kingdom and have given us a catalogue of honey producing plants of such varying habits that the wise apiarian may fill up all the gaps occurring between the regular periods of bloom of the plants usually depended upon for honey, and thus secure a constant flow of nectar during the entire season. By many experiments made by competent bee-keepers under every variety of climate and circumstance, the wintering problem is so far solved that the progressive apiarian expects to see his bees come forth bright and lively in the spring, with the same confidence that he does his other farm stock. To secure to our bees the benefits arising from the commingling of the blood of different races, no pains have been spared, and no expense or toil has been deemed too great; and the magnificent result is, that for all the qualities which go to make up the perfect honey bee, such as vigor, endurance, long tongues, swiftness of flight and sweetness of temper, America to-day stands without a rival. The abundance of the floral supply and quality of the various varieties of American honey, also excel that produced in any other portion of the known world; so that wherever it has been introduced, whether in our own or foreign lands, it has never failed to create a demand for more; and, although the quantity produced is now reckoned by barrels, tons, and car-loads, exceeding hundreds of times the quantity produced by our fathers, the prices obtained on an average are remunerative, and from causes already enumerated, will doubtless, continue to be. The fear of stings, natural stupidity, the lack of scientific education, together with the lack of that peculiar adaptation for the work, form a kind of "protective tariff" for the honey producer, which, if protected in other respects, will always render his business free from the ruinous competition observable in nearly all the other industries of our country. With the vast accumulation of correct knowledge, and appliances adapted to every need, the intelligent bee-keeper of to-day feels as certain of a fair return for his labor, as though engaged in any other occupation.

Viewing then this industry from the standpoint of its growth on correct principles as distinguished from its former career when founded on absurdities, and taking into consideration the universal appetite and craving demand for its delicious products, we should at once conclude that it is destined to attain a vigorous old age; but there is another side to this question which it is well to consider as affecting our future markets for honey, and consequently the permanence of the industry itself. It is a well known fact to those who read and are posted on the production of sugars and syrups that, with a few trifling exceptions, all the sugars produced during the past three years, and now being produced, are adulterated on an average of 25 per cent. on the whole amount, and the various syrups differing in quality, principally in name and amount of coloring material used, are adulterated still worse; that as a consequence all the refiners unwilling to engage in the nefarious business of slowly poisoning the public, and not being able to sell a pure article of sugar or syrup at the same price of this *vis*, though fine looking "stuff," left the business in disgust, and to-day the whole field is occupied by these counterfeiting scoundrels. Honey has thus far, to a very large extent, escaped their ravenous "maw," but as many of their victims, either through warnings in the newspapers, or the falling health of their families from the use of this "trash," have been casting about for a change, and are rapidly substituting honey, these villains are becoming alarmed and are extending their field of operations to include this industry also.

In a recent lawsuit among the members of the firm of the Buffalo Grape Sugar Company for the recovery of \$450,000, the fact was

brought out by the affidavit of one of the firm, that one bushel of corn produces thirty pounds of grape sugar, or a still greater quantity of glucose, and that the refuse of each bushel brings eight cents for swine feed. Now, it must be apparent to every honey producer that if his pure unadulterated article is to compete with honey mixed with this substance so that the mixture will contain from 50 to 75 per cent. of glucose (the usual proportions), his business as a bee-keeper will soon be closed out, and this new industry with all its triumphs in the past and hopes for the future will sink to oblivion. We do not make these statements to discourage bee-keepers, but to stir them up to a sense of their danger while there is yet time to avert so great a calamity; but we cannot avert it by ignoring its existence.

Let the National Association originate some trade mark and label to be adopted by all the minor associations in all the states. Let producers pledge themselves to sell only to dealers who will become members of this association, and in turn pledge themselves in good faith to carry out all its requirements. Let vigilant committees be appointed in all the different associations, whose duty it shall be to watch for and report all violations by the members, whether dealers or producers of the association rules, and when convicted let it be known through all our mediums of communication with the public. Let those who are qualified write frequently for the country papers, setting forth the extent of syrup adulterations, the danger to the community by their continued use, giving simple methods of detecting the poison such as the tea or alcohol test; also setting forth the merits, in all points, of pure honey as a substitute. Let tracts on these subjects be published by the National Association, unaccompanied by any man's advertisements, for gratuitous distribution, and in the meantime petition our state legislatures for the enactment of laws for our protection, similar to our New Jersey law, under which Professor Hosbrouck and our district attorney are soon to commence suits against the most prominent adulterators of honey in Jersey City, and which will, doubtless, result in a glorious victory of this first application of our new law.

Let the bills presented to our legislatures be in the interest of *honey alone*, for if framed to cover other sweets, they will be sure to meet with defeat, on account of the immensity of the interests of the opposition, and the amount of money they would willingly sacrifice in their defense. In offering these plans to this convention, we do not arrogate to ourself any wisdom above our brethren, and shall gladly accept and work for any method by whomsoever proposed, which seems calculated to advance and protect the cause of bee-keeping in the United States.

Dairy.

The Princess' Dairy—Where Her Royal Highness Makes Butter.

Lynn, King's Lynn, or Lynn Regis, as it is variously called, is a charming and quaint old town in the east of England, and close to the briny mouth of the Great Ouse. A description of its antiquities, historical reminiscences, and natural beauties must be left for another letter, in order to describe a trip to Sandringham, the Prince of Wales' country seat, which is only nine miles drive from Lynn, but seldom visited by American tourists, as it is out of the way of the regulation route. One of the objects of interest about the place is the Princess' Dairy.

Imagine a tiny building of brownish red brick, jutting out in quaint little gables, miniature bay windows and odd porticos, and fairly festooned by some beautiful vine with feathery foliage and great purple starlike blossoms, tangled up with damask roses and sprays of ivy. Then think of a beautifully carved oak door, with an old iron knocker upon it, and on one side a carved bear of Swiss workmanship, life size, with a basket on his back ready to hold the inevitable umbrella. Then open the door and find yourself in the daintiest sort of milk room, with tiled floor and marble tables, upon which stand, in porcelain pans, the rich milk for royal use. Here it is that the fair Princess of Wales, a la Marie Antoinette, comes with noble lords and ladies to make butter in a silver churn, and afterward to spread it on wafer slices of bread, and have it with tea in the tiny room adjoining, to which no one is admitted but the Princess' most intimate friends. The rosy cheeked little dame who has charge of the dairy, in answer to a question, said:

"The first time her Highness came here she wore, like the other ladies, a pretty chintz dress and a little white apron, and she said: 'Now I am going to consecrate the dairy by churning the butter and making the tea and cutting the bread for you all.' But Lor', mum, she didn't know what she was bargaining for, for there were twenty-six ladies and gentlemen in all, and by the time the butter came she was tired out. I begged her Highness to let me cut the bread, but 'No,' says she, 'I said I would do it, and it won't hurt me to find out what work means.' So she kept on and never stopped until she had cut two slices round, though I am sure she made her arms ache, and her face grew quite red."

After drinking a glass of milk, and, I regret to say, in spite of it coming from a royal cow, it tasted quite like any other, we were admitted into the tiny parlor, which I was particularly anxious to see, having been told that every article in it was chosen and arranged by the Princess herself, and in the furnishing of an apartment or in the style of a hotel, something of a person's real character, and certainly of

their taste, can be detected. This proved a veritable nest of comfort and easiness, but, to one's surprise, without the individuality to be expected. Into the oaken panels of the walls were sunk various pretty tiles, votive offerings from friends, and they were otherwise ornamented by plaques, charming water colors, and odd bits of China. Over the marble mantel was hung a heavy mirror in ebony frame, and on the polished floor lay a superb white fur. The oaken chairs were upholstered with a tiny figured brocade, and the windows were draped with embossed green velvet, entirely out of keeping with the room. Japanese scenes, an exquisite view in marble, and a table holding a tea service of rare old china, filled various niches, one of the most conspicuous being a lifelike fish of goodly proportions in a market basket of majolica.

Up-stairs was a tiny dressing-room, and passing to the rear of the dairy one finds a gallery, with all sorts of shining metal pots, pans, and stack of pretty wicker baskets, waiting to be filled with fresh butter and eggs, which the morning train carries daily for royal use. In front of the dairy is a charming little flower plat, filled with heliotrope, pansies, the Princess' favorite flower, geraniums, and fuschias. This her Highness planted and takes care of herself.—*Correspondence Chicago Inter-Ocean.*

New Process Cheese.

A cheese was exhibited by Messrs. Whitman & Burrell, at the Board of Trade recently, made by their new process from skimmed milk and buttermilk. The mess from which it was made comprised two days' milk, amounting to 6,060 pounds. From this enough cream was taken to make 285 pounds of fine butter, being an average of about 22½ pounds of milk to one pound of butter. From the same milk was also made 576 pounds of cheese, averaging about 10½ pounds of milk to one pound of cheese. It was made about September 20th, so that the cheese is now forty days old. Both buyers and salesmen tested it freely, and acknowledged its stocky qualities. One buyer, who is as good a judge as any on the board, declared that it was richer and finer than a good deal of the full milk cheese that is made. If it proves the cheese will keep for a length of time in as good condition as this, thousands and thousands of dollars will be added to the incomes of dairymen.—*Utica Herald, (N. Y.)*

Advertisements.

KANSAS.

If you want Taxes paid, or Real Estate bought or sold, anywhere in Kansas, or to loan money on good improved property at good rate of interest, correspond with J. R. Swallow & Co., Real Estate and Loan Agents, Topeka, Kansas.

Land! Land! Land!

HOMES FOR THE PEOPLE

350,000 ACRES
—IN—
Bourbon, Crawford & Cherokee CO'S, KANSAS.
Still owned and offered for sale by the MISSOURI RIVER, FORT SCOTT AND GULF RAILROAD COMPANY
On Credit, running through ten years, at seven per cent. annual interest.
20 PER CENT DISCOUNT FOR CASH IN FULL AT DATE OF PURCHASE.
For Further Information Address
JOHN A. CLARK,
Fort Scott, Kansas. LAND COMMISSIONER

KANSAS

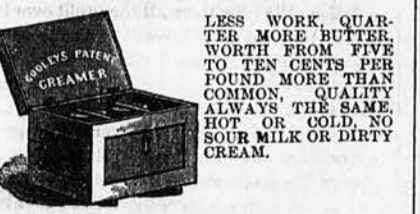
Loan & Trust Company

TOPEKA, KANSAS.
The Oldest and Largest Institution of the Kind in the State.

LOANS MADE

Upon well improved Farms and City Property at the LOWEST-RATE. Money always on hand. No tedious waiting for papers to go east. Four Millions Loaned in the state. Send in your application with full description of property.
T. B. SWEET, President.
GEO. M. NOBLE, Secretary.

Cooley Creamer



LESS WORK, QUARTER MORE BUTTER, WORTH FROM FIVE TO TEN CENTS PER POUND MORE THAN COMMON. QUALITY ALWAYS THE SAME. HOT OR COLD. NO SOUR MILK OR DIRTY CREAM.
"Would not try to make butter without the Creamer," so say the many who have used the Cramer the past season.
Friend, you can make the dairy business pleasant and profitable by using one of these Creamers.
For Circular, price lists, &c., send to
LYMAN & SHAFFER,
State Agents, and Dealers in Dairy Goods, Higgins' Salt, etc., 263 Kansas Ave., Topeka, Kas.
Manhood Restored.
A victim of early imprudence, causing nervous debility, premature decay, etc. having tried in vain every known remedy, has discovered a simple means of self-cure, which he will send free to his fellow-sufferers. Address J. H. REEVES, 48 Chatham st., N. Y.

Patrons of Husbandry.

NATIONAL GRANGE.—Master: J. J. Woodman, of Michigan; Secretary: W. M. Ireland, Washington, D. C.; Treasurer: F. M. McDowell, Wayne, N. Y.

F. railroad, the company charges shippers only twenty dollars per ton, so I am informed and I consider the information reliable.

ences are in one way or another tributary to his business, and ought to be understood in a greater or less degree by all enterprising, intelligent tillers of the soil.

KIDNEY WORT THE ONLY MEDICINE That Acts at the Same Time on THE LIVER, THE BOWELS, and the KIDNEYS.

Liquid KIDNEY WORT In response to the urgent requests of great numbers of people who prefer to purchase a Kidney-Wort already prepared.

TUTT'S PILLS! SYMPTOMS OF A TORPID LIVER. Loss of Appetite, Nausea, bowels costive, Pain in the Head, with a dull sensation in the back part.

TUTT'S HAIR DYE. GRAY HAIR OR WHISKERS changed to a GLOSSY BLACK by simple application of this DYE.

THE SORGO HANDBOOK A Treatise on Sorgho and Imphee Canes, and the Minnesota Early Amber Sugar Cane.

A. PRESCOTT & CO., TOPEKA, KANSAS. [Have on hand]

\$100,000 TO LOAN In Shawnee and adjoining Counties on good Farm security

Per Annum. BOSTWICK'S GIANT RIDING SAW MACHINE

This Wonderful Improved Saw Machine is warranted to saw a two-foot log in three minutes.

Farmers' Institutes.

Now that the press of farm work and politics is past, it is time that farmers should give attention to matters more specially related to their calling.

It has been suggested that too much professional talent has been employed at some of the Institutes, and that farmers have not had sufficient opportunity to discuss the theories of the speakers and advance their own practical views.

For carrying the above recommendation into successful practice, there is no farmers' organization so well qualified as the Grange.

Humiliating but True

Samuel Sennett, writing to the Western Rural, says: In the late congress there were 223 lawyers in the house and 58 in the senate.

The state of Iowa has just elected eleven lawyers to represent her in congress. In this, the second district, there were three candidates in the field.

PERPETUAL Sorghum Evaporator. \$15, \$20, \$25. CHEAP AND DURABLE.

Breeders' Directory.

E. T. FROWE, breeder of Thorough-bred Spanish E. Merino Sheep, (Hammock Stock). Bucks for sale, Post Office, Auburn, Shawnee Co., Kansas.

Nurserymen's Directory.

KANSAS HOME NURSERY offer for sale Home grown Fruit and Ornamental Trees, Vines, Shrubs, &c., of varieties suited to the west.

Dentist.

A. H. THOMPSON, D. D. S., Operative and Surgeon Dentist, No. 189 Kansas Avenue, Topeka, Kansas.

HOGS.



Southern Kansas Swine Farm. THOROUGH-BRED POLAND-CHINAS and BERSHIRE Pigs and Hogs for sale. The very best of each breed.

RIVERSIDE FARM HERD OF POLANDS.



E. DILLON & CO. The Oldest and Most Extensive IMPORTERS AND BREEDERS OF

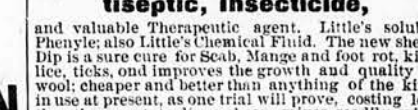
Norman French Horses

In the United States. Old Louis Napoleon, the first imported Norman stallion brought to Illinois, at the head of our stud, for many years.

THE SHEEP'S LIFE AND SHEPHERD'S FRIEND.

Deodorizer, Disinfectant, Antiseptic, Insecticide, and valuable Therapeutic agent. Little's soluble Phenyle; also Little's Chemical Fluid.

J. A. McLAUGHLIN, Manufacturer of and Dealer in



Breach and Muzzle Loading Guns. Ammunition, Pistols, Fishing Tackle, Pocket Cutlery

SANFORD LIVES: Breeder of high class, thoroughbred and English



Sanford Lives: Breeder of high class, thoroughbred and English and Plymouth Rock fowls. My stock is the best in the west.

The Farmer and the Railroads.

The farmer, in the paper. Read the editorial mentions. That the public welfare rested on political conventions.

All this time the railroad men were busy shaping things political. Why, apparently, no one knew the farmer least of all was critical:

The price was high, but so were freights; Instead of rich, it left him owing. Then wroth the farmer quick became;

MORAL.

If farmers as a class will not take an interest in public affairs they may expect to be preyed upon by the railroads. Railroad men now boldly advocate a new principle of fixing charges—viz., "what the traffic will bear."

Is it not about time that the farmers, who constitute by far the largest single interest in this country, and whose productions are the basis of all our prosperity, should have something to say about the amount they are taxed for transportation?

High Freights and Monopolies.

EDITOR FARMER:—I am well pleased with your remarks on farmer's alliances, also in regard to union or stock yard companies.

READ THIS!

THE BEST OFFER EVER MADE.

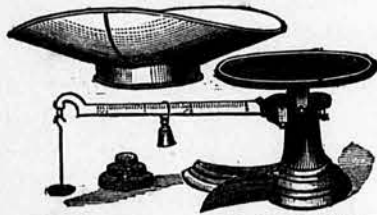
Must Be Accepted Within Sixty Days.

One of the Best of Newspapers One Year for Nothing.

And a Splendid Family Scale, Weighing from 1-2 Ounce to 240 Pounds, for Half Price.



Believing there is not a family in the country who would not like one of these convenient Scales...



A smaller scale exactly suited to the kitchen, the pantry and farm dairy...

A Cough, Cold, or Sore Throat should be stopped. Neglect frequently results in an Incurable Lung Disease...

Read the KANSAS FARMER offer to club agents, send for specimen copies of the paper, club lists and go to work canvassing.

A farmer who thinks it economy to get along without taking an agricultural paper is standing in his own light...

Wool Growers.

Ship your Wool to W. M. Price & Co., St. Louis, Mo. They do an exclusive commission business and receive more wool than any Commission House in St. Louis.

Don't Get the Chills.

If you are subject to ague you must be sure to keep your liver bowels and kidneys in free condition.

I have suffered from a kidney difficulty for the past ten years, accompanied with nervous spasms.

H. Richardson, Sec and Fox Agency, Indian Territory, says: The "Only Lung Pad" has restored me to health...

Clothing.

Farmers, as you drive along North Topeka, call on W. C. Norris, opposite the Palace Hotel...

The Friend of Delicate Ladies.

Warner's Safe Kidney and Liver Cure is the remedy that will cure the many diseases peculiar to women.

The Reason Why.

The tonic effect of Kidney-Wort is produced by its cleansing and purifying action on the blood.

Christ, Gerber, wholesale hardware, Toledo, Ohio, says: The Excelsior Kidney Pad has accomplished more for my wife in three weeks than all the medicine she has taken in three years.

15-Stop Organs \$58.

Beatty's Organs with 4 full sets of reeds, 15 stops, stool, book and music, are now offered for \$58.

An endless variety of new styles are now being offered for the holiday season. Read Mr. Beatty's new advertisement...

Real Estate Loans

in Shawnee county and adjoining counties at 8 1/2, 9 and 10 per cent. and No Commission.

Building loans made on Topeka property. Correspondence solicited. T. E. BOWMAN, Topeka, Kas.

8 and 9

Eight and nine per cent. interest on farm loans in Shawnee county. Ten per cent. on city property.

The Chicago Times says: Warner's Safe Kidney and Liver Cure is highly endorsed by ministers, judges, physicians, surgeons, by men of literary and scholarly distinction...

CANVASSERS Make each \$25 to \$50 per week selling goods for E. G. RIDEOUT & CO., 10 Barclay Street, New York.

Markets.

TOPEKA MARKETS.

Table with 2 columns: Item and Price. Includes produce like NEW CABBAGE, BUTTER, EGGS, BEANS, etc.

Grain.

Table with 2 columns: Grain Item and Price. Includes WHEAT, CORN, OATS, BARLEY, etc.

Butchers' Retail.

Table with 2 columns: Butcher Item and Price. Includes BEEF, PORK, VEAL, etc.

Hide and Tallow.

Table with 2 columns: Hide/Tallow Item and Price. Includes HIDES, TALLOW, etc.

Poultry and Game.

Table with 2 columns: Poultry/Game Item and Price. Includes CHICKENS, DUCKS, etc.

WOOL MARKET.

Table with 2 columns: Wool Item and Price. Includes WASHED, UNWASHED, etc.

St. Louis.

Demand limited, and prices easy; Tub washed-choice - to 47c. No. 2 medium 45 to 46c...

Markets by Telegraph, November 29.

New York Money Market.

Table with 2 columns: Financial Item and Price. Includes GOVERNMENT BONDS, COUPONS, etc.

Table with 2 columns: Financial Item and Price. Includes MISSOURI SIXES, ST. JOE, PACIFIC SIXES, etc.

St. Louis Produce Market.

FLOUR-Higher: XX, \$3.80 to 4.10; XXX \$4.50 to 4.65 family \$4.90 to 5.10...

Chicago Live Stock Market.

The Drovers' Journal reports as follows: HOGS-Receipts, 35,000; shipments, 13,000; receipts for the week, 298,000...

St. Louis Live Stock Market.

HOGS-Fairly active; Yorkers and Baltimores, \$4.10 to 4.30; mixed packing \$4.40 to 4.60...

Kansas City Produce Market.

The Commercial Indicator reports: WHEAT-Receipts, 12,334 bushels; shipments, 8,078 bushels...

Liverpool Market.

[By Cable.] BREADSTUFFS-Market unchanged. FLOUR-5s 6d to 11s 9d. WHEAT-Winter, 9s 8d to 9s 10d...

Chicago Produce Market.

FLOUR-In good demand and at full prices WHEAT-Active, firm and higher; No. 2 red \$1.09; No. 2 spring, \$1.09 1/2 to 1.09 3/4...

Kansas City Live Stock Market.

CATTLE-Receipts, 618; shipments, 1,417; market firm for good choice; common slow; native shipping steers, averaging 1,320 to 1,447 pounds...

Denver Market.

FLOUR, GRAIN AND HAY. HAY-Upland, \$2 to 2 1/2; second bottom, \$2.2 to 2 1/4; bottom hay, \$1.8; Kansas baled, \$16 to 17...

New Advertisements.

Our readers, in replying to advertisements in the Farmer, will do us a favor if they will state in their letters to advertisers that they saw the advertisement in the Kansas Farmer.

SHEEP FOR SALE.

Being short of Feed I wish to sell or put out on shares, 160 or 200 Sheep. Address:

A. EVANS, Plum P. O., Lyon Co., Kas.

50 New Year Cards. Elegant designs, with your name on each for 10c. E. E. Kay, New Haven, Ct.

The American Popular Dictionary, \$1. Only.

This useful and convenient volume is a complete dictionary of English words and phrases, as well as the best dictionary in the world...

S. BARNUM & CO.

Great Double Store, 197 and 199 Kansas Avenue. Offer for the next THIRTY DAYS Extraordinary Inducements.

BARGAINS IN CLOTHING, BARGAINS IN DOMESTICS, BARGAINS IN WOOLENS, BARGAINS IN FURNISHING GOODS, BARGAINS IN YARNS, BARGAINS IN HATS AND CAPS, BARGAINS IN UNDERWEAR, BARGAINS IN CLOAKS AND DOLMANS, BARGAINS IN BLANKETS, BARGAINS IN CARPETS, OIL CLOTHS, &c.

We guarantee on all the above lines a saving from 10 to 20 per cent from present market value or money refunded.

An inspection of Stock and prices are respectfully requested. We carry the largest stock in the city in all lines, and have all the departments lately replenished with a fresh stock of goods.

S. BARNUM & CO., Union Block Building.

SONGS 25 Cts. a 100.

1 Baby Mine, 2 The Old Cabin Home, 3 The Little Ones at Home, 4 How I Got My Name, 5 The Old Log Cabin in the Lane, 6 The Old Man and the Sea, 7 The Faded Coat of Blue, 8 The Old Man and the Sea, 9 The Old Man and the Sea, 10 The Old Man and the Sea...

WELL I AM SURPRISED SOME EVERYBODY

Why? Because the illustrations exactly represent the 18 K. Hoped Gold Solid Ring... We want a large list of subscribers to our new paper...

Literary and Domestic

The Lucky Horseshoe.

BY JAMES T. FIELDS.

A farmer traveling with his load Picked up a horseshoe in the road. And nailed it fast to his barn door.

But dire ill-fortune soon began To visit the astounded man. His hens declined to lay their eggs.

Next spring a great drought baked the sod. And roasted every pea in pod; The beans declared they could not grow

One morn', demoralized with grief, The farmer clamored for relief; And prayed right hard to understand

While thus dismayed o'er matters wrong An old man chanced to trudge along. To whom he told, with wornwood tears,

The stranger asked to see the shoe, The farmer brought it into view; But when the old man raised his head,

The farmer turned the horseshoe round. And showed them back to swell the ground: The sunshine laughed among his grain,

Children's Brains.

"Faith Rochester" furnishes the American Agriculturist with the following sensible article on the above subject:

I have been looking over, with interest, one of the series of American Health Primers, on "Brain Work and Overwork." One thing that interested me was, what I found incidentally about the nourishing of children's brains.

conditions—pure air all of the time, night and day, indoors and out. The blood is the building material of the whole body, brain and all, and this is made of our food, good blood or poor, according to the drink we take, and in proportion as it is cleansed by pure air at every breath taken into the lungs.

There is a deal of talk, nowadays, on both sides of the ocean, about our systems of education. Everybody sees that on the whole children are not educated as we could wish.

KEEP THE LITTLE FOLKS HEALTHY, and nature alone will do the work to a surprising extent; that is to say, she alone will do better work for a healthy child who has a good home than all your educational systems put together can do for a sickly child with poor home influences.

Some Chinese Ladies.

The present ruling houses in China, if we estimate it in the way we estimate European royal families, is, as Charles Dickens observed, a "remendous family to provide for, as it embraces the trifling number of 40,000 souls."

history abounds with heroines, and that cases of female pluck, ability and virtue are constantly recorded in imperial documents even at the present day.

Make Friends.

Life is very critical. Any word may be our last. Any farewell, even amid glee and merriment, may be forever.

Receipts.

TO CLEAN SILVER. Nothing is better to clean silver with than alcohol and ammonia; after rubbing with this take a little whitening or a soft cloth and polish in this way.

TO DESTROY INSECTS.

A solution of salt about as strong as sea water will destroy lice on apple trees, insects on cabbages and prevent the ravages of the squash bug.

COLD MEATS.

Cold meats are less satisfying to the appetites, and far less digestible, than when hot. Our bodies do not get the same amount of nourishment from cold as from hot meats.

Frightful Figures.

New York has about 10,000 dram shops and maintains a police force 2,535 strong, nor is this standing army a mere sinecure.

Bran as a Medical Agent.

A German scientific paper of recognized authority, Die Fundgrube, recommends tea of bran as a specific against coughs, colds, fever and restlessness.

To BOIL APPLES.—About the nicest morsel that ever tickled the palate is boiled apple—not boiled like a potato nor steamed like a pudding, but as follows: Place a layer of fair-skinned Baldwin, or any other nice variety, in a stew-pan, with about a quarter of an inch of water.

Never decant coffee. Whatever else you do about it, bring it to the table in the vessel in which it was made. A handsome urn or gorgeous coffee-pot is the grave of good coffee.

Never condemn your neighbor unheard, however many the accusations preferred against him. Every story has two ways of being told, and justice requires that you should hear the defence as well as the accusation, and remem-

ber that the malignity of enemies may place you in a similar situation.

A London journal detects chronic invalidism as a trait of the upper class of English ladies. "It is a downright misfortune," it says, "to a large number of ladies to be rich and to have carriages always at their order, and so by degrees to lose, or never to acquire the habit of taking good walks."

Advertisements.

In answering an advertisement found in these columns, our readers will confer on us a favor by stating that they saw the advertisement in the Kansas Farmer.

50 Landscape, Chromo Cards, etc., name on, 10c. 20 Gilt-Edge Cards 10c. CLINTON & Co., North Haven, Ct.

50 Pin-a-4, Chromo, Lily, Lace, Marble, etc., Cards, in case, 10c. CLINTON & Co., Northford, Ct.

50 Perfumed cards, best assortment ever offered, 10c. Agis Outfit, 10c. COHN CARD CO., Northford, Ct.

50 Chromo, Glass, Scroll, Wealth and Lace cards 10c. Try us. CHROMO CARD CO., Northford, Ct.

20 Gold and Silver Chromo Cards, with name, 10c. post paid. G. I. REED & Co., Nassau, N. Y.

18 Elite, Gold Bow, Bevel Edge cards 25c. or 20 Chinese Chromos, 10c. J. B. HURD, Nassau, N. Y.

\$66 a week in your own town. Terms and \$5 outfit free. Address: E. H. HART & Co., Portland, Maine.

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\$5 to \$20 per day at home. Samples worth \$5 free. Outfit free. Address: STILES & Co., Portland, Maine.

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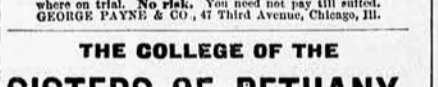
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Evaporation of Fruits.

The following was read at the late meeting of the Ohio Horticultural Society, by J. Edger-ton, of Clermont county.

When we take into consideration the tenden-cy of our orchards to produce fruit in alternate years, making such a glut in the market that we cannot dispose of the produce at a profit, or indeed at any price at all, and in the "off years" causing such a scarcity as almost to pro-duce a fruit famine, it would appear that any contrivance that will enable us to convert this excess into a product we may stow away until the season of scarcity appears, should be con-sidered a great and valuable achievement.

Also in our inquiry we found that the Alden process makes a good article of fruit, but it is so expensive that it is not adapted to the wants of the people, and is only eligible for large es-tablishments. The Zimmerman, as well as most others of the processes which have been introduced to public notice, consists of a series of trays or racks, arranged one above another. These must be drawn out by hand and removed to the succeeding tier as each tray of fresh fruit is ready to take its place next the heat.

We also find this is an admirable method of putting up pumpkins, tomatoes, and indeed all kinds of perishable vegetables. So we can en-joy "ye pumpkin pie of ye olden time" at any season, and have fresh tomatoes the year around. Canning is at once expensive, cum-bersome and unsatisfactory, while evaporating is applicable to almost all kinds of fruits, vege-tables, etc., and is certainly destined to super-seede canning at no distant day.

Now a word about cost and profit. There are so many modifications of this house that the most fastidious can be accommodated, as the cost may vary with size, style and finish, from \$20 up to \$500, which adapts it to uni-versal use. Perhaps a little item from our own experience will well illustrate a moderately successful experiment with it. We dried about 600 pounds of fruit in twenty of the short days of winter, running only in the daytime, and on a No. 2 drier, costing \$60. This was a factory and portable apparatus house, and one of equal capacity, stationary, can be put up for about \$20. A man, woman, or child can dry upon it from 33 to 35 pounds of raspberries in a single day, thus securing 100 quarts per day. The present market price of these dried berries is 30 to 35 cents a pound.

First-class evaporated apples are worth from 12 1/2 to 15 cents a pound on the same counter where ordinary dried apples are selling at 5 or 6 cents. Sweet corn is destined ere long to be-come an important article for evaporation; also tomatoes, pumpkins, etc., for which, as yet, no market has been established. The correct prin-ciples of fruit drying are to do the work rap-idly, thus driving off the watery particles before decomposition takes place; and to avoid scor-ching, which produces caramel, or burnt sugar, the ingredient which gives to ordinary dried apples the dark color and the strong flavor which always accompany them in a greater or less degree. By rapidly expelling the water, we retain the fruit sugar in the product.

Winter Protection for Young Orchards.

Ira T. Gregg gives his brother farmers some very sensible advice on this subject through the Indiana Farmer:

Having gone over my young orchards and put in trim my young trees, for winter quarters, let me remind my brother farmers who are growing young trees that they had better see to this work at once.

Frist remove all grass, weeds or rubbish of any kind from the trees which might serve as a protection for mice. Then with a small bunch of straw bind nicely around the trunk of the tree to a height of at least three feet. This will be a sure protection against rabbits, and be of good use to protect the tree from cold during the winter season. A damp day is preferred for doing this work. As most all kinds of fruit are liable to be destroyed by the rabbit during the winter, especially if the weather is severe, and the above preventive is far better than the use of grease or hog's lights, or wrapping with paper.

Advertisements.

Our readers, in replying to advertisements in the Farmer, will do us a favor if they will state in their letters to advertisers that they saw the advertisement in the Kansas Farmer.

SEED HOUSE. GARDEN AND FIELD SEEDS; Fresh and True to Name. Sent by mail or express to any part of Kansas.

MILLET, FLAX SEED, CASTOR BEANS, CLOVER, BLUE GRASS, TIMOTHY. Orders promptly filled.

S. H. DOWNS, Opposite Shawnee Mill, Topeka.

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In eliminating the impurities of the blood, the natural and necessary result is the cure of Scrofulous and other Skin Eruptions & Diseases including Cancer, Eczema, and other sores. It is the best Blood Purifier, and stimu-lates every function to more healthful action, and thus a benefit in all diseases.

PRINTERS,

Whoemakers, Tailors, and all who lead sedentary lives, will find relief and cure for constipation, dys-pepsia and headache by taking this simple, harm-less vegetable compound.

EDITORIAL.—We have tested its virtues, personally and know that for dyspepsia, biliousness and throbbing headache, it is the best medicine the world ever saw. We have tried forty other remedies before Sim-mons Liver Regulator, but none of them gave us more than temporary relief, but the Regulator not only relieved but cured us.

W. W. MANSPEAKER.

WHOLESALE AND RETAIL GROCER.

227 Kansas Avenue, Topeka, The largest Grocery House in the State.

Goods Shipped to any Point.

We buy for Cash; buy in large quantities; own the block we occupy, and have no rents to pay, which enable us to sell goods

VERY CHEAP.

Farmers and Merchants in country and towns west of Topeka are invited to send for circulars and price list.

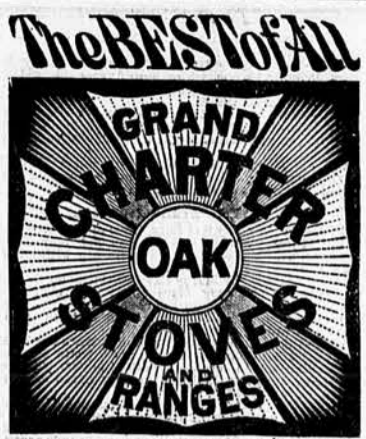
In the Whole History of Medicine

No preparation has ever performed such mar-vellous cures, or maintained so wide a reputa-tion as Ayer's Cherry Pectoral, which is recog-nized as the world's remedy for all diseases of the throat and lungs. Its long continued series of wonderful cures in all climates has made it universally known as a safe and reliable agent to employ. Against ordinary colds, which are the forerunners of more serious disorders, it acts speedily and surely, always relieving suffering, and often saving life. The protection it affords by its timely use in throat and chest disorders, makes it an invaluable remedy to be kept al-ways on hand in every home. No person can afford to be without it, and those who have once used it never will. From their knowledge of its composition and effects, physicians use the Cherry Pectoral extensively in their practice, and elergymen recommend it. It is absolutely certain in its remedial effects, and will always cure where cures are possible. For sale by all dealers.

HIGH CLASS POULTRY, C. C. GRAYES, BROWNVILLE, Mo. (NEAR SEDALIA.) Breeder & Shipper. EGGS FOR HATCHING in Season. Send for Illustrated Catalogue, Free.

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A valuable Discovery and New Departure in Med-icine. Science, an entirely New and positively effective Remedy for the speedy and permanent Cure for the deplorable disease resulting from indiscreet practices in excess in youth or at any time of life, by the only true way, viz: Direct Application acting by Ab-sorption, and exerting its specific influence on the vessels, Ducts, and glands, that are unable to per-form their natural functions while this disease pre-vents the human organism. The use of the Pastille is attended with no pain or inconvenience, and does not interfere with the ordinary pursuits of life; it is quickly dissolved and soon absorbed, producing an immediate soothing and restorative effect upon the nervous organization wrecked from vicious habits or excesses, stopping the drain from the system, remov-ing the mind to health and sound memory, remov-ing the Dimness of Sight, Confusion of Ideas, Aversion to Society, and the appearance of premature old age usually accompanying this trouble, and restoring the vital forces, where they have been dormant for years. This mode of treat-ment has stood the test in very severe cases, and is now a pronounced success. Drugs are too much pre-scribed in this trouble, and as many can bear witness to, with but little if any permanent good. There is no nonsense about this Preparation. Practical ob-servation enables us to positively guarantee that it will give satisfaction. During the eight years that it has been in general use, we have thousands of testi-monials as to its value, and it is here conceded by the Medical Profession to be the most rational means yet discovered of reaching curing this distressing trouble, that is well known to be the cause of untold misery to so many, and upon whom quacks prey with their useless nostrums and big fees. The Remedy is put up in neat boxes, of three sizes. No. 1, enough to last a month; \$3; No. 2, sufficient to effect a per-manent cure, unless the patient is very debilitated, lasting over three months, will restore those in the worst condition. Sent by mail, in plain wrappers. FULL DIRECTIONS for using will accompany EACH BOX.

Send for Sealed Descriptive Pamph-lets giving Anatomical Illustrations and Testimony, which will convince the most sceptical that they can be re-stored to perfect health, and the vital forces re-estab-lished by re-ceiving it, as soon as it is never affected. Sold ONLY by HARRIS REMEDY CO., MFG. CHEMISTS, Market and 8th Sts. ST. LOUIS, MO.

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THE untold miseries that result from indiscretion in early life may be alleviated and cured. Those who doubt this assertion should purchase the new medical work published by the PEA-BODY MEDICAL INSTITUTE, Boston, entitled THE SCIENCE OF LIFE; or, SELF-PRESERVA-TION. Exhausted vitality, ner-vous and physical debility, im-paired by the errors of youth or too close application to business may be restored and manhood regained.

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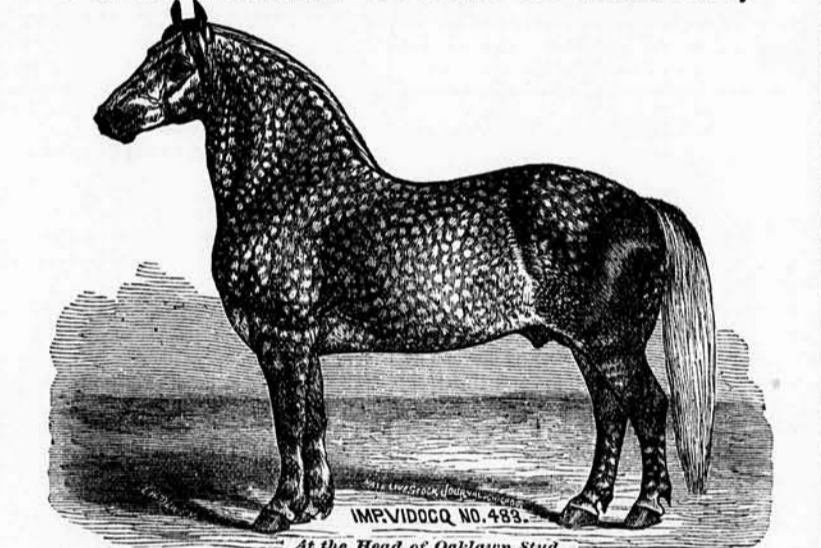
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LITTLE'S CHEMICAL SHEEP DIP, Always used in cold water, positively a sure cure; safe to use at all seasons. Any crude tub with a dripping floor is all the requirements necessary. I am selling hundreds of gallons in the states of Kansas and Mis-souri, giving universal satisfaction. JAMES HOLLINGSWORTH, 210 LaSalle St., Chicago.

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ALL LUNG DISEASES, THROAT DISEASES, BREATHING TROUBLES. It DRIVES INTO the system curative agents and heal-ing medicines. It DRAWS FROM the diseased parts the poisons that cause death. Thousands Testify to its Virtues. You Can be Relieved and Cured. Don't despair until you have tried this Sensible, Easily Applied and RADICALLY EFFECTUAL Remedy. Sold by Druggists, or sent by mail on receipt of Price, \$2.00. Send for Testimo-nials and our book, "Three Millions a Year." Sent free. BATES & HANLEY, 134 Madison Street, Chicago, Ills.

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