

KANSAS FARMER

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SWINE.

POLAND-CHINA PIGS—Dietrich & Gentry, Ottawa, Kas., have sixty fine pigs, sired by Lord Corwin 4th 901, U. S. A. 6934, Kansas Chief Vol. 14, O. Several brood sows and young sows bred.

Agricultural Matters.

THE CEREALS.

BY PROF. A. E. BLOUNT.

(Continued from last week.)

In nearly every State where wheat is or has been raised for years, a marked decrease has been noticed, insomuch that the average yield now amounts to less than twelve bushels per acre—hardly enough to cover the cost of production. And why? It cannot be the climate and soil have changed naturally to such a degree as to bring about so lamentable a change. The cutting away of forests in some and the growing of forests in other States cannot seriously affect successful wheat-raising. Artificial improvements, buildings, the construction of canals, water-works, lakes, dams in streams, and a hundred other mechanical devices to obstruct the natural flow of water in its channels may conspire to injuriously affect the soil at great distances sometimes. Any obstructions to the natural flow of water is said to "affect the natural drainage of entire basins and even water-sheds."

This would lead us to the conclusion that, under such conditions, perfect drainage is so materially obstructed that wheat-raising is damaged thereby. Such logic may be true in some sections, but they must be comparatively small. One source of a large decrease is, without doubt, the wonderful increase of noxious insects and fungus growths, induced and encouraged, more than in any other way, by heedless and constant production of the cereal on the same land year after year. Greater, and I believe the greatest difficulties and obstructions in the way of raising as much produce and as fine crops as formerly in all sections where it was once made successful, lie with the farmer himself. The fact that he pays little or no attention (1) to the preparation of his soil, drainage, judicious rotation of crops, application of fertilizers at the proper time, and in the proper quantity, and the time and manner of sowing his seed; and (2) to the selection of the best varieties of wheat for his locality and a continual annual selection of the best from them; and, lastly, by not satisfying the demands of his crop, are prolific sources of the small yields and the failures now reported.

The fact that farmers in most States have no more new land on which to raise wheat is another cause, and that they, having lost the productive power of their land due to careless culture, do not take into consideration the altered condition of their soil sufficiently to meet the demands of wheat.

Wheat is a plant that must be bred up all the time like animals to do well, to be kept pure, from running out, poor in quality and quantity. It should never be sown on low land—not even second bottom—but always on high land plateaus, or mesas. Where drainage is naturally good a deeply mellow soil is not the best, as some advocate. A good seed bed is absolutely essential, but the surface in rainy sections should be left quite rough for winter wheat because it prevents the roots from being broken and dried out when the heaving of the soil in the early spring takes place; and the ground should never be rolled where spring wheat is sown, in arid climates especially, because the heavy west winds will cut the crop entirely off. Corn stubble or potato land is by far better suited to the habits and growth of wheat when not replowed than if plowed deep and made mellow before sowing. On land freshly fertilized with barnyard manure, wheat will not make fine grain because the manure has a tendency to make too much stalk and foliage, decidedly to the detriment of the grain. If barnyard manure is applied at all to wheat it should be old and well rotted, or what is far better,

a crop of corn or potatoes the preceding year and then follow it with wheat. If fertilizers must be used directly to stimulate the wheat crop, let them contain elements that make grain, not foliage, such as superphosphates, potash, nitrates, ashes, salt, etc., in proper proportions.

The table below shows the names of a few of the American and foreign wheats, the college number, number of days maturing from the time they came up, average number of heads produced from a single grain, average number of kernels in the heads, and the yield per acre. The large yields noticed come not from fertility or suitability of soil, but from mere improvement of seed by selection and crossing. All these were sown the middle of March and harvested in July and August. The two winter wheats failed, to some extent, to fully mature before the dry hot weather set in, consequently they rusted:

NAME.	Number.	Number of heads to the stalk.	Average number of kernels to the head.	Yield per acre.
Minnesota Fife.....	1	132	38	47
White Fife.....	2	140	58	56
Eldorado.....	6	126	17	118
Defiance.....	8	126	66	32
Sonora.....	12	119	56	20
Mexican.....	13	126	46	44
Improved Fife.....	14	126	41	52
Russian.....	15	126	53	58
Books.....	16	130	51	54
Canada Club.....	18	122	57	56
Judkin.....	19	126	42	48
Lost Nation.....	20	126	52	49
Chill.....	26	122	62	67
China Spring.....	27	126	56	61
Saxon Fife.....	29	126	47	63
Dominton.....	30	126	43	52
Prusslan.....	31	119	42	47
Pringle's No. 4.....	34	122	49	53
Pringle's No. 5.....	35	128	46	63
* Fultz.....	38	151	32	41
Midge Proof.....	39	122	41	63
* Centennial.....	40	128	55	22
Hedgerow.....	41	121	24	31
Granite.....	42	119	36	42
Hybrid No 10.....	51	113	69	67
Sardonyx.....	56	121	40	39
Amethyst.....	57	121	44	39
Ruby.....	58	121	37	51
Fountain.....	71	117	40	39
Dallas.....	100	118	41	37
Propoe.....	110	118	52	56
Carnelian.....	123	118	39	52
Feldspar.....	129	110	52	46
Aowse.....	147	113	47	42
Nox No 5.....	157	118	44	43
Northcote's Amber.....	163	119	46	43
Purple Straw.....	182	119	47	51
Steinwedel's.....	357	100	53	41
Rattling Tom.....	358	108	39	61

* Winter wheat.

Another Method of Preparing Wheat Ground.

EDITOR KANSAS FARMER:—In one small neighborhood in central Kansas—perhaps in others—they are practicing a peculiar method of preparing ground for wheat. Just there this new mode is gaining great favor. For at least two years it has been notably successful. One or two farmers are just done harvesting their third big crop in this way.

The method is this: The drill attachment is taken off the lister, and with the lister plow the ground is furrowed out just as it would be for planting corn. The ground stands thus till just before seeding time, when the ridges are worked down nearly enough to a level so that they may be driven over. This is done with the corn cultivator and the tooth-harrow usually, though the disc-harrow is sometimes drafted into use. The seed is drilled upon the ground so prepared and the crop is in.

What are the advantages? First has been noted in all cases the conspicuous advantage of a crop increased in quantity and improved quality. There can be little doubt of this. Though the farmer cannot, like the scientific experimenter, control all the conditions, and attempt to say just how many pounds per acre his yield is increased by a particular method of culture, yet he knows when he gets a good crop, and he knows when one crop is better than another. In these special instances it will be quite permissible to attribute the good crops of wheat in part at least to this peculiar method of sowing them. Besides this advantage there is none.

A few have been deluded into thinking that it was less work than plowing the ground all over in the usual way, but by the time the field has been covered with the lister, the corn cultivator—twice perhaps—and the harrow, there is an exceedingly small balance of labor in favor of this method.

Why does this way of putting in the wheat give a better crop? Here is a chance for all the speculation that any one could ask for. Here is a chance for the man of perennial theories to come to the front and explain what nobody seems to understand. The lister seems to give a partial cultivation of the soil, bringing fresh portions out to the action of the elements, where the plant foods may be dissolved out and used by the growing wheat. At the same time a part of the ground is left practically undisturbed, and so furnishes the firm foundation which the roots demand a hold upon that they may bring the wheat plant safely through the winter. Still, thus far, this is a pretty thin theory. It seems more probable that the greatest advantage of this method is in the opportunity which it gives the farmer to get over a large number of acres immediately after harvest, when the ground is in good condition. One is thus enabled to early plow much more territory and to make it hold its moisture.

In examining for the reason why this way of preparing the ground has been successful it must appear, from the difficulty of referring it to any of the ordinary principles of plant growth, that the success in the two or three years where it has been tried has been rather accidental than due to any fundamental superiority of this manner of cultivation. Many farmers are pleased with it and are putting in large areas in central Kansas in this way. But it is hardly time to aver that a better way than the old has been discovered.

F. A. WAUGH.

Manhattan, Kas.

The Hired Man on the Farm.

That the labor question is sure to become an important one in connection with farming, is apparent from the following remarks on the subject which appeared in a recent number of *Field and Farm*: "The great question that just now occupies the mind of the farmers all over this country, and particularly just now in Colorado, Kansas and Nebraska, is that of the hired man. Notwithstanding the fact that in almost every small town in Colorado there are lots of able-bodied young and middle-aged men loafing about doing nothing but jawing politics, whittling sticks and generally filling what would be a useful void, and the chain gangs are full of vags, there is a great difficulty for the farmers to find enough hands to help through the harvest.

"The result is that those men who have hired themselves out to work for the farmers are inclined to be very independent, offensively so in some cases, and yet if they were to stop and think, they would not be so utterly independent. A hired man in Weld county, talking on this subject lately, said: 'No one wants to do business at a loss, but that is what lots of the laborers want the farmers to do. Suppose I hire out for \$20 a month and found. Then suppose I say to myself, I will do \$25 worth of work each month, and no more. Now can the farmer afford to keep me around? Let us look at the matter carefully and see. He pays me \$20 in cash and my board, which probably costs him, if he counts everything, \$10 a month. Then count in what I break and otherwise destroy, and that is no small item for the most of us.

"So we find that I must earn my employer at least \$35 a month to make up for his cash outlay. But no one wants to do business for nothing. So he cannot afford to keep me around unless I

earn enough more to give him some profit besides paying interest on the increased amount of stock and tools which he has to keep to keep me employed. Now if I say I will just earn what I get and no more, the farmer cannot afford to keep me. He may have to do so, however, to keep from losing more than he loses on me, by not getting his crops in. If I work for \$40 and earn \$60, some neighbor will want me next year. So there will be a competition for my service, and thus I will get more pay. But if I merely earn just what I can get, I cannot make my employer believe that he ought to pay me more.

"If I say I can do more, he will say, 'Why don't you do so now?' If we want our employers to look after our interests, we must look after theirs. The man who always puts a rail back on the fence when one is off and who never forgets to shut a door after him is on the road to success. When in doubt as to what course to pursue, take the one that seems to be the most for your employer's benefit. Then he will soon trust you to do things that he would not let the careless man attempt. Another way to succeed is to specialize. That may seem to be queer advice to give a man who is compelled to work at as many different kinds of labor as most farm hands are. But if a hired man takes some branch of his work and tries to do that especially well, he may soon get a position where he will have nothing else to do, and specialists are usually paid better than other laborers."

One ton of hay properly cured is worth twice as much as if improperly cured, and the extra labor required to secure a good article is very slight. Stock will thrive well on good hay with very little grain feed. Besides this saving, it is a satisfaction to the grower to feel that he has a palatable ration for his stock.

Hay stored under cover is worth one-fourth more than the average kept in stack. The best haying weather is when the ground is dry and the sun only reasonably hot. A cold north or easterly breeze is better than a scorching south or west wind. The hay dries out more uniformly and without crisping the finer parts of the hay, causing a loss of these in handling, which are the most valuable parts.

The KANSAS FARMER has received a lengthy communication from Mr. J. C. H. Swann, of Newton, in which he suggests that in his last year's anticipation of prices for grain Mr. C. Wood Davis did not sufficiently take into consideration the inability of European paupers and Russian famine sufferers to buy grain. Mr. Swann says that grain has never sold high in time of famine. He calls attention to the superior quality of this year's wheat crop, and also argues that persistent east winds are generally followed by rain.

A Fight Between Giants.

Both desperate, both determined! The King of Medicines in contest with the King of Maladies! Dr. Pierce's Golden Medical Discovery against "Consumption!" It is not the struggle of a day, but the first blows are the fatal blows! In its early stages, Consumption (which is Lung-scrofula) will yield to this great Remedy! This has been proven beyond a doubt by innumerable successes! Acting directly upon the blood, its scope includes all scrofulous affections, Liver and Lung diseases. As a blood-purifier and vitalizer, it stands unequalled.

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The Home Circle.

To Correspondents.

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

The Drunkard.

On feeble and unsteady legs
He walks as if he trod on eggs.

When'er he has to give or take
His hands, as with the palsy, shake.

To meet your gaze he vainly tries
With dull and bleared and bloodshot eyes.

Compelled to bear the sign, he shows
A swollen, coarse and crimson nose.

His pimpled, blue and bloated face
Of manliness has not a trace.

All people near him shun like death
His permeating, sickening breath.

With ruined health and shattered nerves
He suffers tortures he deserves.

Sad children and heart-broken wife
Through him endure a wretched life.

Abhorred and shunned by friends once known
He wanders through the world alone.

Soon losing self-respect he goes
In seedy, torn and dirty clothes.

With raging, hot, increasing thirst
Which can't be quenched he's ever cursed.

In vain he takes the pledge to stop;
With will power gone he has no prop.

Asylums, drugs, "gold cures" he tries
Make him insane—unless he dies.

Down, down, he sinks until in time
He in the gutter reeks with slime.

From borrowing he begs until
For drink he'll steal or even kill.

Delirium tremens' horrid sights
He sees. With imps and snakes he fights.

At last with tramps his doom is sealed,
And then he goes to Potter's field.

And after that? Alas, who knows
Where any slave of liquor goes?

They have their hell on earth, confessed—
They can't have worse. So let them rest.

— H. C. Dodge, in *Drovers' Journal*.

WILL THE COMING MAN SLEEP?

It by no means appears that sleep is a natural function, the necessity of which inheres in animal life and the constitution of things; there is much reason to regard it as a phenomenon due rather to stress of circumstances—a kind of intermittent disorder incurred by exposure to conditions that are being slowly but surely removed. Precisely as sanitary and medical science and improved methods of living are gradually extending the average length of human life in every civilized country and threatening the king of shadows himself with death ere, in the poet's sense, "Time shall throw a dart" at him, so we may observe already the initial stages of a successful campaign against "his brother Sleep." Civilized people sleep fewer hours than savage ones, and the dwellers in cities fewer than the country folk. The reason is not far to seek; it is a matter of light.

Primitive man, like the savages of today, had at night no other light than that of the moon and that of wood fires. For countless ages our ancestors lived without candles, and when they had learned the trick of burning rushes soaked in the fat of neighboring tribesmen their condition was not greatly better. Beyond primitive man we may venture to survey his ancestors—unmentionable to ears un-Darwinized—who lived for ages even more hopelessly countless with no artificial light at all. In the darkness of the night (and, in case of the remoter progenitors, always that of the forest) what could these ancient worthies do. They had little enough to do at any time, but even their rudest occupations could not be pursued in darkness. They simply did nothing, and naturally assumed the most comfortable posture in which to accomplish it, the earlier sort suspending themselves by their tails, the latter lying down as we do at present, having no tails. It is a law of nature that the moment any organ or member of the body is at rest a kind of torpor ensues. The blood circulates with a more feeble flow, molecular changes take place with less activity—in short, it begins to die, and can be restored to full life only by a renewal of use. With continued inaction it dies altogether. In the case of the brain this torpor means unconsciousness—that is to say, sleep. To put the matter briefly, darkness compelled inaction, inaction begot sleep.

Another law of nature—a rather comical

one, by the way—is that acts which we do regularly, from necessity or choice, set up a tendency in us to do them involuntarily when we don't care to and when the original necessity has been replaced by this new and equally imperative one to which, in both its mental and its physical aspect, we give the name of habit. And by still another law of nature, (the term is used here only to denote a universally recurrent phenomenon) habit in both its aspects is hereditary. Because for millions of generations our "rude forefathers," unable by reason of darkness to indulge during the whole twenty-four hours in the one-sided pleasures of the chase and the mutual delight of braining one another in tribal wars, had to go to sleep, we have to go to sleep, although we have (by paying roundly for it) plenty of light to make ourselves objectionable in an infinite variety of ways, both entertaining and profitable.

But little by little we are overcoming the sleep habit without loss of health, if not with positive sanitary advantage. As above mentioned, the people of our lighted cities sleep less than the rural population, and this less than it did before the improvement in lamps. And nothing is more certain, despite popular opinion to the contrary, than that the men of the cities are superior in strength and endurance to those of the country, as is abundantly attested by army life, in camp and field. That this is wholly or even greatly due to their nocturnal activity is not affirmed; only that their addiction to the joys of insomnia has not appreciably counteracted the sanitary advantages of city life—among which we are tempted by the canting of the physicians to give an honorable prominence to defective drainage, sewer gas and drinking water that is largely solution of dog and hydrate of wronged husband.

The electric light has apparently come to stay, but more likely it will in good time be replaced by something that as far exceeds it as it beats the hallowed tallow candle of our grandmothers. Not only will the streets and shops and dwellings of our cities be illuminated all night with a splendor of which we can have hardly a conception, but the country districts as well; for it is now known that plants (which apparently are not creatures of habit) do not need sleep, and that by continuous light the profits of agriculture could be enormously increased. The farmers will no longer retire with the lark, but will work night shifts, as is already done in factories and mines, and eventually work all the time, as most of them would be glad to do now in order to support the rest of us in the style to which we have been accustomed.—*San Francisco Examiner*.

The Great Chicago Fire.

What is said to be the best attraction in the World's Fair city at the present time is the cyclorama of the great Chicago fire, located upon Michigan avenue, near Madison street. No one should fail to see that masterpiece of cyclorama painting, illustrating, as it does, the greatest conflagration of modern times.

This wonderful painting is about fifty feet high and 400 feet long, and there were consumed in its production two and one-half tons of paint. Usually these paintings are executed in Europe, and then exported here; not so with this one. Noted artists of Europe—from London, Munich, Dusseldorf and Paris, were employed to come here, at a cost of from \$20 to \$25 per day each, to paint this cyclorama, where it now hangs. It required about two years to produce this wonderful work. It represents the sum of a quarter of a million dollars as it stands to-day, and the proprietors claim that it is the most expensive work of art in the world, the expense of producing it being three times the amount ever before expended on a production of this nature. The Chicago fire burned up \$1,000,000 worth of property every five minutes on an average, for eighteen hours in succession. It burned over an average of two and one-half acres every minute for that period of time. This will give some idea of what the fire really was. Those who experienced that appalling catastrophe will never forget it. To those who did not see the fire, the next best thing is to see this marvelous painting of it, which is an exact reproduction of the ruins and buildings of Chicago as they appeared on the morning of Monday, October 9, 1871. The business portion of the city is in ruins, and the great north side is a sea of fire.

Testing the Baking Powders.

Comparative Worth Illustrated,

BY PROF. PETER COLLIER, LATE CHEMIST IN CHIEF OF THE DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

DR. PRICE'S.....	Pure Cream Tartar.
ROYAL.....*	Contains Ammonia.
UNRIVALED.....*	Alum and Ammonia.
Taylor's 1 Spoon.....*	Alum and Ammonia.
MONARCH.....*	Alum and Ammonia.
SNOW BALL.....*	Alum and Ammonia.
CALUMET.....*	Contains Alum.
HOTEL.....*	Contains Alum.
YARNALL'S.....*	Alum and Ammonia.
MILK.....*	Alum and Ammonia.
SHEPARD'S.....*	Alum and Ammonia.
BON BON.....*	Contains Alum.
FOREST CITY.....*	Alum and Ammonia.
CHICAGO YEAST.....*	Alum and Ammonia.
CROWN.....*	Alum and Ammonia.
SILVER STAR.....*	Alum and Ammonia.
DOODSON & HILS.....*	Alum and Ammonia.

Above diagram was drawn and verified in all its details, by Prof. Peter Collier, who is pre-eminent as a Chemist, and Scientist. The illustration is made in accordance with his chemical tests of each brand enumerated.

The Carbonic acid gas was calculated to get the leavening strength and the quantitative analysis to ascertain the comparative wholesomeness, purity, and general usefulness of the leading Powders. The result of Prof. Collier's examination and test, reveals the fact, that, with but one exception, every brand tested contained either Ammonia or Alum, and a number both.

Not one woman in ten thousand would use an Ammonia or Alum Baking Powder if she knew it. Such Powders not only undermine the health, but ammonia imparts a sallow or blotched complexion.

NOTE.—Dr. Price's Cream Baking Powder, as shown by Prof. Collier's examinations, is the only pure Cream Tartar Powder found free from adulteration and the highest in strength. All authorities report Dr. Price's free from Ammonia, Alum, Lime, or any other adulterant. The purity of this ideal Powder has never been questioned.

* Indicates the Powder containing either Ammonia or Alum.
*★ Indicates the Powder containing both Ammonia and Alum.

While the diagram shows some of these Ammonia or Alum Powders to be of higher strength than others classed below them, it must not be taken that they possess any value. All Ammonia or Alum powders should be avoided as dangerous, no matter how high their strength.

These August Days :

- Are trials to the soul.
- The birds forget to sing.
- Tempt even the ferns to droop.
- We cry, "My kingdom for a tree."
- Suggest rest, while seeming to defy it.
- Remind us that fruit cannot wait for cans.
- How patriotic we are! we all love the country.
- No dinner or lunch is complete without a salad.
- Make us solicitous for the health of the little folks.
- Call for ripe red raspberries, blackberries and—cream.
- Breezes are at a premium, the sun at a big, big discount.
- Make an afternoon siesta, if not a necessity, something nearly akin to it.
- Avoid great day's works, and labor moderately in the hours before noon.

Pickle Your Peaches.

There is no more universally approved pickle than this. Take good, ripe peaches—freestones, if you can get them, if not take the Lemon Cling, whose excellent flavor will in a measure make up for the annoyance of the adhesive pit. Peel the peaches with a small, sharp, bright knife, or remove their skins by the quicker process of soaking them five minutes—not more—in boiling water, then throwing them into cold water, and rubbing with a rough towel. The skin of the fruit will come off by this process with the utmost ease. Have your spiced vinegar ready, well skimmed and boiling. A safe proportion is one quart of vinegar to three

pounds of sugar, into which put in a gauze bag, half an ounce each of stick cinnamon and whole cloves, with two peppercorns and a piece of ginger root as large as your thumb. Put in fruit enough to be quite covered with the liquor—the amount as above directed will take about seven pounds of the peaches—and put a plate over them while cooking to keep the top layer from rising out of the liquor. Then simmer gently till the fruit is quite soft, when it should be carefully taken out and put in a stone jar, and the vinegar poured over it while hot. Seal immediately and put away.—*Good Housekeeping*.

The Cottage Hearth for August.

The demand of the general reader seems to be for short stories. In none of the current magazines is this tendency more fully recognized and better met than in the August number of *The Cottage Hearth*. In "The End of a Love Story," by Dora Reed Goodale, we are given an episode in the life of a plain New England girl.

Herbert H. Smith recounts a very novel experience with "Some Formidable Fishes" commonly found in the rivers and lakes of Brazil.

In the story of "Will," by Whitmarsh Seabrook, the author presents the true name and history of the negro who is immortalized in the poem, "How He Saved St. Michael's." One of Daudet's best short stories, "The Child Spy," which has never been presented to American readers before, is translated for *The Cottage Hearth* by Gustave Ferrier. The regular departments offer unusual attractions, and are filled with just the practical suggestions that housekeepers like. Handsome illustrations add interest to the stories and articles. (W. A. Wilde & Co., Boston, Mass.)

TO OUR CROP REPORTERS.

The KANSAS FARMER reports will be delayed until our issue of August 31, in order that something definite may be given regarding the corn crop. It is important that our readers may have this compiled information as well as the speculators, who are sparing no expense to secure accurate information for their benefit.

We want the actual facts regarding the points named below, and ask each of our reporters, as well as any of our readers who will do so, to give briefly information concerning the following: (1) Average, yield per acre and quality of wheat, oats, rye, barley. (2) State the condition and prospects for corn. (3) How will the hay crop compare with last year? (4) What is the condition of fall pastures? (5) What are the prospects for apples, potatoes and broomcorn?

Be sure to prepare and mail report not later than August 26 or 27. We want reports from every county. Our subscribers are requested to help out our regular reporters this time. Send postal-card reports, giving county and postoffice, and sign your name to the report.

RECIPROCIITY.

The "summary statement of the imports and exports of the United States for the month of June, 1892, and for the twelve months ending the same, compared with the corresponding period of 1891," contains official statements of the trade of the United States with countries with which reciprocity treaties are in force. Similar statements contained in the May summary were noticed in these columns, and showed results somewhat disappointing to the friends of the scheme with the horrible name. The June showing is in the same direction as that of May. Since reciprocity went into effect with the countries with which we have these trade treaties we have made an increase of our exports to those countries over corresponding periods without reciprocity amounting to \$8,132,329, and during the same periods have increased our imports from those countries by \$68,163,857, so that for every dollar we have added to our sales under reciprocity we have added over eight dollars to our purchases in the countries affected, and have increased the balance of trade with those countries against us by \$60,024,237. The increase of exports scarcely exceeds the increase in exports of breadstuffs, which may have resulted from the shortage in the wheat crops of countries from which these reciprocity countries have formerly drawn their supplies, so that it is uncertain whether the increase of our exports can be referred to any but natural causes. This increase may disappear when foreign wheat-growing countries shall have recovered from their famines.

A GREAT AGRICULTURAL STATE.

None of Kansas' numberless friends keeps a more careful outlook upon all that pertains to her prosperity than does the Kansas City Star. In reviewing the latest crop report of Secretary Mohler, that paper says: "The great increase in the area of all grain crops in Kansas as reported by the Secretary of the State Board of Agriculture yesterday shows a progress in agricultural development that is positively marvelous. It will be remembered that drouth last fall stood in the way of reasonable planting of wheat and unprecedented rains all through the spring delayed corn planting to such an extent that it was feared that farmers would be unable to get a full area of crops planted. Certainly there were thousands of acres which remained unplanted because of the unfavorableness of the seasons. Yet so active and arduous were the farmers of the State that the winter wheat area last fall was increased by 226,000 acres and the spring wheat 157,969 acres, raising the total wheat area of the State to 4,118,664 acres, which exceeds by almost a million acres the wheat area of any other State in the Union. In two years the increase in the Kansas wheat acreage has been more than doubled. This marvelous transformation in the agricultural character of the State has been accomplished so quietly that the world has hardly discovered that Kansas is far and away the chief wheat State in the Union.

"This great increase in wheat area has not been accomplished at the expense of other crops. On the other hand, the corn

acreage this year was increased by 385,573 acres and the oats area by 315,052 acres.

"Here is an increase of more than a million acres in three crops in a single year of extraordinarily unfavorable weather during the planting season of every crop. It is evident that farmers have not neglected their work to attend Alliance meetings this year. All the reports from Kansas indicate that vast areas of ground are being broken for planting in wheat this fall, and it is among the possibilities for the Kansas wheat area in 1893 to reach close to 5,000,000 acres.

"Kansas is right now passing through the era of her most marvelous progress in agricultural development. And she is not making any noise about it, either."

HOW TO OBTAIN PROF. SNOW'S DISEASED CHINCH BUGS.

THE UNIVERSITY OF KANSAS,
LAWRENCE, August 3, 1892.

EDITOR KANSAS FARMER:—Replying to your esteemed favor with enclosure, of the 1st inst., I am engaged in sending out inoculated bugs and have been for the past two months. For a while in July we were sending out almost one hundred lots of infected bugs a day. We are now sending out about twenty-five lots a day. Reports have not come in in sufficient numbers to say definitely of the success of the workings this year. My field agent, however, reports about the usual percentage of successes, viz., 75 per cent. The demand for infected bugs was so great that the laboratory supply of bugs affected with the fungus (*Sporotrichum*) has been almost entirely exhausted. We are at present sending out no fungus-infected bugs. We hope soon to be in condition to renew the sending out. We are, however, sending out bugs from our bacterial infection cages and shall be greatly interested to hear the reports of the results of the field experiments with this infected material. I shall be glad to send infected bugs to Nebraska on application. There is, of course, no expense whatever connected with the application for bugs; all that I ask is that the experimenter shall make a careful detailed report of the work. The field work is called experimental still. I do not at all insure a successful experiment, though the large percentage of successful results continues my great confidence in the work.

I return you herewith letter from Nebraska Farmer Co., as requested.
Lawrence, Kas. F. H. SNOW.

BENEFITS OF THE FAIR TO ENGLAND.

The Liverpool (England) *Journal of Commerce* thinks that one of the most important movements of late years making for freedom of trade is the Chicago Exhibition of 1893. The very *raison d'être* of a general show of the manufactures of the world is to advertise the countries in which particular classes of goods can be more cheaply and more ably produced than anywhere else, and it is only these classes of goods that rise to any importance in the list of exports. The *Journal* thinks that when the English manufacturers place upon cottons, woollens and machinery the prices at which these articles can be produced and sold, a very decided stroke will be scored for freedom of trade. The English paper continues: "We can scarcely think that the hard-headed clear-thinking Americans will fail to be impressed with the significance of these figures when attached to actual objects. The farming classes of America, who are prevented from multiplying their exports to this country by many times even the present large figures, surely cannot help realizing the wonderful advantages which they would receive if the purchasing power of their money were increased, as it would be by the adoption of free trade. It is to the farmers we look as the ultimate settlers of this great question, and the growing power and influence of the Farmers' Alliance is one of the best signs of a complete victory. Hitherto the towns have had all their own way, and the millionaires of New York have simply jerrymandered the tariff to suit their pockets. Every penny of their gains has been wrung from the suffering farming class, and we look forward with impatience to the time when the agriculturists of America will assert themselves, and insist on the proposition that the one living and healthy industry of the country shall not be kept from its due development to fill the pockets of speculators."

KANSAS WEATHER-CROP BULLETIN.

Bulletin of the Weather Service of the Kansas State Board of Agriculture, in co-operation with the United States Weather Bureau, for the week ending August 8, 1892:

The rainfall is about normal in Phillips and Norton counties, but over the rest of the State it is practically nil, being confined to light local showers. Atchison reports .33 inches, Kiowa .31, Colby .12, Minneapolis .10, and Abilene and Sedan .04 each.

The temperature has been excessive throughout the State, there being a departure of 6° from the normal at the central station. The maximum reached at Manhattan was 105°; at Offerle, Edwards county, 106°; at Oswego, 108°; at Abilene, 100°; and at the central station, 98°. The week has given more than the average amount of sunshine over the greater part of the State.

Corn is rapidly pushing forward, and in some localities the early-planted fields are nearly past the need of rain. Over the greater portion of the State no serious damage has yet been done by the absence of rain, but it is proving unfavorable to corn, pastures and fodder crops, and good rains would now be beneficial in all localities.

Threshing is rapidly progressing, and haying is in full blast, the weather being favorable for securing the crop in good condition.

Plowing for wheat has begun in many localities, but is retarded by the heat and unfavorable condition of the soil.

THE SUGAR BOUNTY.

The sugar bounty law requires that all sugar planters applying for bounty under the law shall file their application with the internal revenue bureau in July. These applications are in and number only 611, against 701 last year, or a decrease of 13 per cent. on the number of sugar manufacturers, showing that the disposition continues towards the consolidation of the plantations into larger ones. As usual, planters own two, three and even more plantations. The actual number of individuals or firms receiving the bounty will be only 450.

The planters' estimates last year were for a crop of 50,000,000 pounds, the bounty on which would have been \$11,000,000. The crop, however, proved a partial failure, and the amount actually received in Louisiana was only \$7,500,000. The bounty paid this year will be larger—between \$8,000,000 and \$9,000,000. If the weather continues as favorable as it has been it will reach the latter figures.

FROM STAFFORD COUNTY.

EDITOR KANSAS FARMER:—Wheat is being threshed in this county at a lively rate and it is averaging about fifteen bushels per acre in this vicinity. The average last year was about seventeen bushels per acre. The quality is considerably better than last year. It will test sixty-two pounds per bushel. Last year fifty-four pounds was about the average of most of the wheat in this county. Oats is fair in quality but will not make over twenty-five bushels per acre. Straw very short. Last year oats made an average of forty-five bushels per acre. Our old corn is all gone and the new crop is very short. Unless it rains in the next three days corn will be an entire failure in this county. We are having hot, dry winds from the southwest and one-half of the crop is killed at present writing. Our hay crop is very short on account of dry weather; not much alfalfa sown in this county; the prairie grass is dry enough at present to burn and has caught fire from the threshing engine and made big fires for the boys before it could be put out.
S. W. McCOMB.

Stafford, Kas., August 8, 1892.

It was thought that the very wet spring of this year had disconcerted the alleged rain-makers, but men built as they are are not so easily driven away from their game. They are back in Kansas, and with their apparatuses, their incantations and their wonderful nerve, are canvassing among the farmers in the western part of the State, securing orders for waterfalls. It seems ridiculous that these men should succeed in their very funny and frivolous business, for to sensible people the idea of an ordinary man having a pull on the weather, is very ludicrous. But they are succeeding, and, being occasionally as-

sisted by Jupiter Pluvius, very cleverly convince the unwary sons of the soil that they are running things just to suit themselves.—*Topeka Lance*.

Commercial Orchardring Pays Well.

EDITOR KANSAS FARMER:—We have read the article on "Commercial Orchardring," by H. C. Raymond, in your issue of the 27th ult., and are surprised at the bold and unjustifiable assertion that fruit-growing, in the future, will pay only just about the same as corn and potatoes.

It is a well-known fact, so far as Kansas is concerned, that only early potatoes succeed, unless heavily mulched, and as to corn, forty bushels per acre is a good average crop.

The best test of the net value of grain crops, is the rental which land commands for general crops, which, in southeast Kansas and southwest Missouri, will not exceed \$2 per acre. We have read the original article, published by Hon. G. Y. Stone, to which Mr. Raymond refers, and will send printed copies of it to any parties desiring it, upon application. It is too long to ask you to publish. Suffice to say that Mr. Stone has been Attorney General of Iowa, and besides being a lawyer, is conceded to be one of the best posted horticulturists in the country, whose reliability is unquestioned. In that article, Mr. Stone shows a net profit of over \$200 per acre on an orchard running for a period of thirty years. But Mr. Stone says, "While these results are fairly attainable, if a high state of the art is practiced, they never can be reached by a man who never cultivates his trees in their early life, or never wages war on insect enemies, or who pastures his orchard with heavy stock, or permits the grounds to remain compactly sodded, or takes annual crops of hay therefrom." But to come directly at Mr. Raymond's assertions, we challenge him to name a single commercial orchard in either Kansas or Missouri eight years from planting, that has had even half decent care, which has netted the owner as low as \$25 per acre, and from our observation and information, as gathered from the horticultural reports of the two States, the average is at least \$35 per acre, while good cultivators, like Mr. Wellhouse, get much better results. Of course, we do not know personally about Mills county, Iowa, but from all we can learn, it is fully as good as our States.

Now, as to cost of growing a commercial orchard, will say: In orchards of 160 acres or over, the total cost of trees and care up to eight years from planting, will not exceed 50 cents per tree, or on land planted forty feet east and west and twenty feet north and south, giving fifty-four trees, \$27 per acre.

We have known the Missouri Pippin apple to net \$40 per acre at six years from planting. The truth is, that an apple tree eight years from planting, will average to pay 10 per cent. interest on \$8 per tree, while the cost is but 50 cents. But another fact is equally true, that ninety-nine out of every one hundred farmers will insist on planting crops from which they can get returns the same year, hence, the planting is never overdone.

The apple belt of this country is comparatively small, and good winter apples have always been worth \$1 per barrel in the largest crop years for export to foreign countries, and doubtless will continue to be.

In conclusion, we consider the article of Mr. Raymond an uncalled for attack on commercial orcharding, which cannot be substantiated by the facts in the case. It is true, we are large producers of fruit trees for sale, but we also have an orchard of 240 acres just coming into bearing, and the size of our orchard is only limited by the capital which we can spare from our business. HART PIONEER NURSERIES.
Ft. Scott, Kas., August 4, 1892.

As the name indicates, Hall's Vegetable Sicilian Hair Renewer is a renewer of the hair, including its growth, health, youthful color, and beauty. It will please you.

Washburn College,

Topeka, Kansas. For both sexes. Collegiate and preparatory courses—classical, scientific, literary; vocal and instrumental music, drawing and painting, oratory and elocution. Twelve instructors. Facilities excellent. Expenses reasonable. Fall term begins September 14, 1892.

PETER McVICAR, President.

In writing advertisers please mention FARMER.

Horticulture.

EXPERIMENTS IN ROOT-PRUNING.

By Thos. L. Brunk, Professor of Botany and Horticulture, Maryland Agricultural College and Experiment Station.

It has long been the belief that in removing a tree from the nursery, the ideal operation would be to save every root and rootlet intact, that the shock of transplanting may be reduced to the minimum. Downing states: "A transplanter should never forget that it is by the delicate and tender points or extremities of the root that trees take up their food, and that the chance of complete success is lessened by every one of these points that is bruised and destroyed. If we could remove trees with every fiber entire, as we do a plant in a pot, they would scarcely show any sign of their change of position. In most cases, especially in that of trees taken from nurseries, this is by the operation of removal nearly impossible. But, although we may not hope to get every root entire, we may, with proper care, preserve by far the larger portion of them, and more particularly the small and delicate fibers."

Thomas says: "If a tree could be removed with all its roots, including the numerous thread-like radicals and all the spongelets, and placed compactly in the soil, precisely as it stood before, it would suffer no check in growth. The nearer we can approach this condition, therefore, the greater will be our success."—*American Fruit Culturist, page 59.*

Numerous citations could be made similar to the above; in fact I do not find that any of our highest authorities vary from the ideas expressed in them. They all advocate transplanting a tree with as many roots attached as it is practicable to remove it with. It would seem at first that there is overwhelming evidence against any other course of reasoning that may be applied to this subject. The roots are the absorbing organs which take up from the food-stored soil all the water and the larger part of the mineral and solid foods which enter into the composition of a tree. It seems irrefutable that if any of the absorbing area is removed the tree is thereby shortened in its food-supply in the same direct proportion. It must be admitted that this is true if done during the growing season, when the "sap" (protoplasm) of a tree is in a state of activity; but is it the case during the period of rest, when the "sap" is in a thickened, inactive, non-transferable condition? It is the conditions a plant takes on during its inactive stage that do not seem to have been considered by our older writers on practical horticulture. Plant physiologists have understood these conditions well, and have shown that "sap" does not "go down to the roots" in fall and return to the parts above ground in spring, as is so commonly believed. They tell us (and common observation proves it) that the "sap" toward fall gradually thickens and ripens as growth above lessens, till finally it becomes completely immobile; but during this inactive stage it does not lose its powers to return to active life when the warmth of spring returns.

In this stage of a woody plant parts of it may be removed that may become new individuals if placed under proper conditions of heat and moisture. Most of our fruit trees may be propagated from either cuttings of shoots or of the roots. If a piece of a tree (cutting) will start to grow without roots, what must that argue as to the condition and nature of the sap within such cuttings? Microscopic sections of such cuttings show that the young wood cells are stored full of starch and other concentrated food materials. When spring comes, with plenty of heat and moisture, this stored food is transformed into those simpler and easily transferred food materials which a plant can use in growth.

This requires but a slight amount of water, which is readily absorbed through the bark of young shoots and through the thin-walled cells at the cut end. This starts growth and activity. But before growth can proceed to any appreciable extent, the cutting must make provision for a specialized absorbing surface in the soil. This is done by throwing out at first a set of delicate, multiplying cells from the layer of young, growing and dividing cells just beneath the bark at the lower end. This white ring of protruding cells is known technically as the "callous." Nurserymen usually assist cuttings to

form this callous early in the season and before placing them in the nursery row, so that root growth may be sure to precede leaf growth, as leaf growth before the initial steps of root formation takes place usually proves fatal to the cutting.

From this callous the young rootlets proceed rapidly, and as they operate in an area so near the cutting it is fed with less effort and more rapidly by a few roots than it could be by a greater number located farther away. Moreover, it is learned from a rooted cutting that it forms a set of roots that take a direction in the soil similar to those of a seedling of the same variety; or, in other words, forms its roots both in point of direction and penetration into the soil, and in a uniform radiation about the trunk compatible to its nature and habits of growth.

Some authorities state that a cutting makes a "duck-footed" set of roots. Observation over a wide field of kinds of cuttings, and of latitude and climate in which they have been grown, thoroughly disproves to my mind any such statement. I have seen Le Conte pear cuttings grown upon the heaviest clay subsoil of the coast region near Galveston, Tex., that had sent down vertical roots, penetrating that soil over four feet in the first season. Piece-root grafted trees also send out new roots deep or shallow, according to the nature of the variety.

From these facts and observations, and from the promiscuous accidental tests made by several growers in various parts of our country of planting trees whose badly-mutilated roots had nearly all been removed, and such trees proving to be more vigorous and uniform in growth than those planted with plenty of roots, I was led to make some inquiry into this seemingly contra-physiological condition.

Accordingly, in 1889, some tests were made in a small way with nursery trees and stock, which gave results conclusive enough to show that an important subject had been undertaken, and that it would justify a test on a larger scale. In April, 1890, 170 Reeves Favorite peach trees, ninety-five Lawrence pear trees, budded on Japan stock, ninety-five Ben Davis and ninety-five Red Astrachan apple trees—all budded maiden trees—were procured for this test. One-third of each of these kinds were root and top pruned, leaving only prongs of roots one to three inches long; one-third were pruned so that the roots were from five to seven inches long, and the remaining third were not root-pruned, except that the ends of badly-mutilated roots were removed. The tops were in every case removed, leaving the apples about two and a half feet long, peaches twenty inches and pears about sixteen inches. No selection was made from the total number of trees for each lot, except that the poorest rooted ones, when otherwise of the same vigor, were selected to be pruned, thus giving a seeming advantage to the unpruned trees. I might say here that the top was not cut uniformly at just a certain distance from the roots, but about the distances mentioned above, and with special reference to five or six good buds to be used as the basis of future limb growth.

The trees were all set side by side in a uniform soil, about six inches deep, in a common plow-furrow. Those that were root-pruned were set with three or four times the speed of those with a mass of roots, to be carefully placed and arranged as they were in the nursery. They all received fair culture with a common Iron Age cultivator, such as would be given by any good orchardist. Notes were taken several times during the growing season, and at intervals a few of each set were taken up and the growth and character of the roots noted. Photography was freely used to record the features of growth.

By July 11 the unpruned peach trees had made a considerable more growth than the root-pruned trees. The apples and pear trees showed at that time only slight differences of growth in favor of the unpruned trees. The first few months the root-pruned trees do not start a very rapid growth, but by fall overtake or exceed the growth of the unroot-pruned. We did not lose a single tree from any of the sets.

By fall the unpruned peach trees had made a little more growth than the root-pruned, but they were not of as even a growth as the root-pruned.

In case of the pears, the root-pruned were far more uniform in growth, and any one could see that they had outgrown

those that had started the season with a full set of roots.

The apples showed about the same growth in both cases; no one could have told which was which by fall without the map. The examinations of the roots during the summer developed some interesting facts. The first thing noticed on removing the trees from the soil was that the old roots had retained all their malformations, twistings and horizontal position they had acquired some way in the nursery or in packing. At least they were just the same as they would have been if set out by the most careful planters. Nearly all the young feeding roots grew from the tip-ends of the old roots, leaving them bare even when over a foot long. Only an occasional new lateral root was found. This threw all the absorbing surface some distance from the trunk. Plant physiology gives us a general law which states that the farther sap has to travel and the more devious its path of transfer from the root absorbents (root hairs) to the leaves, the less the growth and vigor of that plant in a given period of time. Sap is retarded in its circulation, and wood formation cannot go on as rapidly as in cases where the sap travels short, direct paths. In all young trees, wood is the first and indispensable product of growth to form a proper basis for future fruitfulness. After a tree is well developed and supplied with strong, stocky branches, it is then time to retard the sap flow and cause fruit buds to form.

In the root-pruned trees the young rootlets sprang as readily from the large circle of cambium at the ends of the short root stubs as from the ends of the longer roots. They came out, too, in greater numbers than on the old roots on unpruned trees, the ratio being ten to three. These young roots clustered close about the trunk of the tree, making the least possible distance for the sap to travel. It seemed evident, also, that new roots developed much faster where the sap traveled short distances. The cut ends by fall had, in most cases, completely healed over, leaving no place for rot to start.

Another very important feature in the growth of the young rootlets noted is that those on the unpruned roots took about the same direction of growth in the soil as the old root was placed when planted. If horizontal, the young roots grew off horizontally; if inclined downward at an angle, the young roots assumed about the same angle. In the root-pruned trees the young roots had very little to guide their growth, leaving them to take such angles as are found in seedling roots of the same variety. In other words, they were put into such a condition by a removal of nearly all the roots back to the collar that they could take on a new root system compatible with their nature, needs, and seedling habits of growth. By the old method, an unnatural system of roots are forced upon a tree. This system of roots is usually irregular, one-sided, and poorly directed in its growth. Such trees are usually surface-rooted, having but few, if any, deep penetrating roots with which to supply the tree with an abundance of water. Drouth and deep freezing are agents that act upon and shorten the lives of such trees.

The newly-formed roots on the root-pruned peach trees were found to penetrate the soil at an average angle of about 40°. Those on unpruned trees were mostly horizontal and surface-feeding. The pear was about the same as the peach, with perhaps more that penetrated deeper from the root-pruned trees.

The Ben Davis apple followed its old record of holding its roots rather close to the surface. The cramped and irregular condition of the unpruned trees is in contrast with the symmetrical condition and position of those on the root-pruned.

(To be continued.)

Wild Goose Plum.

EDITOR KANSAS FARMER:—Five years ago the papers were publishing such glowing accounts of this wonderful plum. By paying 75 cents for one-year-old trees, some parties got some of them and they turned out to be the largest, sweetest and most prolific small fruit ever seen; good for pies, preserves, jellies, and canning. It is a sight to see the loaded limbs bending down to the ground with such delicious fruit, which begins bearing in three years from seed, requiring no grafting, as they reproduce themselves from seed, and at five years will furnish several bushels.

I am 65 years old, and never saw anything to equal them; have proved to be the best selling fruit on the market at big prices; have never failed or been bothered with insects; do well North or South. They should be planted twenty feet each way to give them room, as the trees are said to grow very large.

Now, in order that you and friends may get a start, I send by mail some seeds and sample of fruit. If any of your subscribers wish to try them, I will send seeds if stamps are sent to cover packing and mailing.

They make an excellent hog food, answering for both food and water, as they come in at a season when water is scarce; and many think they keep off hog cholera. An acre orchard will fatten more hogs than ten acres of corn, besides saving the expense of cultivating, gathering and feeding, which is no small item. As there are two kinds, late and early, the plum season may be extended to two or three months.

Buckner, Mo. C. E. COLE.

- For Constipation
Ayer's Pills
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- For Sick Headache
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- For Colds
Ayer's Pills
- For Fevers
Ayer's Pills

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Sold by all Druggists.

Every Dose Effective

Smith's Small Fruits.

Our Spring Catalogue now ready. New Strawberries, New Raspberries, New Blackberries. 25,000 Edgar Queen Strawberry Plants. 75,000 Cuthbert and Brandywine Red Raspberries. Write for prices. B. F. SMITH, Lawrence, Kansas.

THE CHAMPION PEACH.

The Largest and Best EARLY FREE-STONE known; hardy and productive; has no equal. For description and prices of this and all other kinds of FRUIT TREES, GRAPE VINES, FOREST SEEDLINGS, and SHRUBBERY.

Address HART PIONEER NURSERIES, FORT SCOTT, KANSAS.

SEED WHEAT FREE.

Wilson's Fall Catalogue for 1892 containing price list and description of new and most productive varieties of Seed Wheat, White Rye and Winter Rust-proof Oats, Fruit Trees, Small Fruits, Strawberry plants, Apparatus roots, &c., for Fall planting. Also thoroughbred land and water fowls, mammoth bronze Turkeys, registered Pigs, German Hares, &c. Catalogue with five samples of best kinds of Winter Wheat sent FREE on application. Address SAMUEL WILSON, Mechanicsville, Pa.

WASHBURN

Guitars, Mandolins & Zithers in volume and quality of tone are the BEST IN THE WORLD. Warranted to wear in any climate. Sold by all leading dealers. Beautifully illustrated souvenir catalogue with portraits of famous artists will be mailed FREE. LYON & HEALY, CHICAGO.

AGENT made in four days selling my Electric Con- sets and Specialties. 100 PER CENT. profit and Cash Prizes. Sample free. Dr. Bridgman, B'way, New York

NO TRUSS
The World will retain like Dr. Pierce's Magnetic Truss. This Celebrated radially cured thousands of cases. No Iron Hoops or Steel Springs. It can be worn with ease and comfort Night and Day. Perfect fitting Trusses sent by Mail. Avoid imitations! If you want the BEST, send 4c in stamps for Pamphlet No. 1. Address all letters to Magnetic Elastic Truss Co. (DR. PIERCE & SON), SAN FRANCISCO, CAL. or SAINT LOUIS, MO.

569

In the Dairy.

The Greater Food Producer.

Aside from the extra care required to obtain, prepare and care for the food products of the cow, there is scarcely a comparison to be made between the desirability of the cow and steer as farm animals. The superiority of the cow over her brother in this respect is forcibly set forth by Prof. Henry, in the *Breeder's Gazette*, as follows:

"The dairy cow is a far more economical producer of food than the fattening steer. A steer which has produced a pound of meat net a day for the whole year through has done very well indeed, and for this result it is necessary to supply a large amount of concentrated feed as well as pasture and roughage. A dairy cow of the same rank as this steer would produce not less than 300 pounds of butter a year, for which there would be required not less than 250 pounds of pure fat. But fat is only one of the three leading constituents of milk, and our cow gives in addition about as many pounds each of milk, sugar and caseine as there are pounds of fat. Besides this there are a good many pounds of phosphate, useful in building up bone. A good cow will give about three times as many pounds of water-free substance in her milk in a year as the steer will of flesh and fat during the same length of time.

"And the cow continues to do this year after year, while the steer is killed at about two years of age and another one grown to take his place. Then, in the matter of feed, the steer requires a much larger life ration than the cow and this adds to the cost of the meat he is making. On the other hand, the cow requires more attention than the steer, as she must be milked twice a day for nearly, or quite, eleven months of the year. Prof. Henry concludes: 'Compared with our best steers what a wonderful machine for the production of human food is such an animal as Signal's Lily Flagg. Besides the thousand pounds of butter, this animal must have manufactured during the year not less than 350 pounds of milk sugar, 350 pounds of caseine and 75 pounds of bone material. No wonder that our dairy-men become enthusiastic and are lost in amazement in contemplating these phenomenal creatures.' Truly, a good cow is a wonderful machine for the production of human food."

Firm Butter Without Ice.

Most housewives know how difficult it is to keep their butter firm during the hot weather, and how unpleasant it is to find the butter almost like oil. Well, here is a cooler described by our contemporary, *Work*, which has four advantages: (1) It costs practically nothing—a great consideration in these struggling days. (2) It is perfectly equal to any refrigerator. (3) It is quite simple, and capable of being cleansed easily. (4) It is based upon sound scientific and hygienic principles. To make it, get an ordinary flower-pot (unglazed, of course), a saucer and a glazed plate or dish. These are all that are necessary. Thoroughly clean the flower-pot inside and out, and dry it in a current of air, or the sun; then soak it well in clear, cold water. Place the butter upon the inverted saucer; stand the saucer in the dish, which you must fill with cold water, taking care that the water is not high enough to reach over the top of the saucer; and then place the flower-pot over the saucer, and your cooler is made. It will keep your butter hard in the hottest weather; the hole at the top will allow free access of air, and the porous sides of the pot will hold the water, and yet permit the air to percolate through. This kind of cooler has been tried during a severe run of hot weather, and has been found to act beautifully.

"A recent decision of the United States Supreme court, on appeal from the United States Circuit court of Massachusetts, greatly weakens the force of the national oleomargarine law, and may, perhaps, render it practically inoperative," says the *Rural New Yorker*. "The law provides that dealers in artificial butter shall keep book accounts and make such returns as shall be required by the Commissioner of Internal Revenue, but no penalty is provided for a failure to do so, so that the door is left open for an evasion of the law. Under the late decision, manufacturers need not keep records of sales or of the amounts of oleomargarine they make, and the internal revenue officers will therefore find it practically impossible to secure information on which to base their demands for taxes. Thus the decision practically almost nullifies the law, and unless needed amendments are promptly made, it must become a dead letter. Farmers should take prompt action in this matter and write at once, individually and through their various organizations, to their Representatives and Senators, urging them to make without delay the needed amendments."

Put Not Your Faith in Princes,

But rely implicitly upon the power to cure of Hostetter's Stomach Bitters, the third of a century old remedy for malaria, dyspepsia, debility, constipation, liver and kidney inactivity, rheumatism and nervousness. To make you eat, sleep and digest well this is the tonic. The delicate, the aged and convalescent use it with advantage. A wineglassful thrice a day.

The Poultry Yard.

Chicken Cholera.

We receive letters every day asking for a reliable cure for chicken cholera. To answer all these letters would occupy our entire time. We should be serving as a veterinary physician for the grandeur of the thing. We have no license for the purpose, no diploma authorizing us to practice, and no particular ability in that direction, if we had.

We know, however, a sure recipe for the disease in question. It is no secret, and its use will trench on nobody's vested rights. We take this method of answering the many questions asked us, by stating that the only reliable cure for this disease is to prevent it.

Chicken cholera proper is caused by indigestion, and the malady is not discovered till it becomes practically incurable; but as almost every ailment affecting the internal arrangement of our domestic fowls is denominated cholera, we propose to show what produces it and what will prevent it—we confess that we know of no way to cure it, except by chopping off the fowl's head.

This and kindred diseases are produced in some of the following ways:

1. By allowing fowls to become very hungry and then suffering them to gorge themselves on sour or fermenting food.
2. By allowing them to drink stagnant or filthy water.
3. By suffering them to roost in damp and filthy localities.
4. By confining them in large numbers within limited space.
5. By allowing them to gorge themselves upon carrion or other putrid substances.
6. By neglecting to provide pure water, to be drunk whenever nature demands.
7. By feeding uncooked corn meal, wet up with a little water and eaten before the water has all been absorbed.
8. By neglecting to provide proper shelter from drenching rains and chilling winds.
9. By feeding unsound grain, unwholesome seeds or decaying vegetables.
10. By confining them or suffering them to roost in unventilated quarters.

These items do not cover the whole category of causes, but the inquiring housewife can, doubtless, find a reason for her misfortunes. A hen is a hardy fowl. She will endure much hardship and be little the worse for wear, but wholesome food, pure water and clean quarters she must have, or disease will surely result. Can

Barb-wire Cuts.

Apply Phénol Sodique before inflammation sets in. He will hardly know he is hurt. Better late than never. For man and all animals.

If not at your druggist's, send for circular.

HANCE BROTHERS & WHITE, Pharmaceutical Chemists, Philadelphia.

Look out for counterfeits. There is but one genuine. Better cut the advertisement out and have it reprinted.

we reasonably expect a fowl to bear what would kill a human being?

The preventive is obvious. It costs nothing but a little attention to details.

The disease is not contagious, as many suppose, but the same cause which produces it in a single fowl will produce it in a hundred. There is no need of buying empirical "dead-shots," for they are worse than useless, and the money paid for them is thrown away. Give your fowls a dry yard, food at regular periods, water in abundance, comfortable shelter with perfect ventilation, and they will laugh at the disease to which neglected and badly-treated fowls fall easy victims. —Our Home Journal.

Whitewash.

The making or mixing up of whitewash is not fully understood by every person. The following methods have proved themselves good. By all means, if you have not already, make a whitewash and go on the inside of your poultry-house.

1. Slack in boiling water, one-half bushel of lime, keeping it just fairly covered with water during the process. Strain it to remove the sediment, that will fall to the bottom, and add to it a pound of salt dissolved in warm water; three pounds of ground rice boiled in water to a thin paste; one-half pound powdered Spanish whiting, and a pound of clear glue dissolved in warm water. Mix the different ingredients thoroughly and let the mixture stand for several days. When ready to use, apply it hot. If a less quantity is desired, use the same proportions.

2. A good whitewash for use upon outside work may be prepared as follows: Slack in boiling water one-half bushel of lime and strain as before. Add to this two pounds of sulphate of zinc and one pound of salt dissolved in water. If any color but white is desired add about three pounds of the desired coloring matter, such as painters use in preparing their paints. Yellow ochre will make a beautiful cream color, and browns, reds, and various shades of green are equally easily obtained.

3. Another excellent wash, lasting almost as well as ordinary paint may be prepared for outside work as follows: Slack in boiling water one-half bushel of lime. Strain so as to remove all sediment. Add two pounds sulphate of zinc, one pound common salt, and one-half pound whiting, thoroughly dissolved. Mix to proper consistency with skimmed milk and apply hot. If white is not desired, add enough coloring matter to produce the desired shade. Those who have tried this recipe consider it much superior, both in appearance and durability, to ordinary washes, and some have not hesitated to declare that it compares very favorably with good lead paints. It is much cheaper than paint, and gives the houses and yards to which it is applied a very attractive appearance. —Fanciers' Gazette.

No other Sarsaparilla has the merit by which Hood's Sarsaparilla has won such a firm hold upon the confidence of the people.



"WORTH A GUINEA A BOX." In the family are more often the result of disordered digestion than most people know. **BEECHAM'S PILLS** will keep peace in a family, by curing Sick Headache, Weak Stomach, Impaired Digestion, Disordered Liver, Constipation and all Bilious and Nervous Disorders arising from these causes. Covered with a Tasteless & Soluble Coating. Of all druggists. Price 25 cents a box. New York Depot, 365 Canal St.

The increase of population in France during the last five years amounted to only one-half of 1 per cent.

BUTTER AND CHEESE MAKERS' MANUAL, advertising Chr. Hansen's Danish Butter Color and Rennet Preparations, sent free by J. H. MONRAD, 58 N. Clinton street, Chicago, Ill.

MAKE YOUR OWN CHEESE.—Send \$1.00 to C. E. Kittinger, Powell, Edmunds Co., S. Dakota, for ten rennets and complete instruction for making cheese at home. Simple process. Failure impossible.

Hay-Fever Sufferers

Should read our new 112-page book on the treatment and cure of Hay-Fever and Asthma. Sent free on application.

"I have been a sufferer from Hay-Fever and Asthma from birth—26 years. I have tried all remedies that came to my notice without permanent relief. I am pleased to say that your medicines certainly cured me to stay cured." W. L. WEDGAR, Roslindale, Boston, Mass."

P. Harold Hayes, M. D., 716 Main St., Buffalo, N. Y.

The smallest Pill in the World!

Tutt's Tiny Pills

To purge the bowels does not make them regular; it leaves them in worse condition than before. The liver is the seat of trouble and the remedy must act on it. Tutt's Tiny Liver Pills act directly on that organ, causing a free flow of bile, without which the bowels are always constipated. Price, 25c.

USE TUTT'S HAIR DYE; a perfect imitation of nature; impossible to detect it. Price, \$1 per box. Office, 39 & 41 Park Place, New York.

"ACTINA,"

The Great Restorer!

ONLY CATARRH CURE. THROW AWAY YOUR SPECTACLES.

ACTINA is the marvel of the Nineteenth Century, for by its use the **Blind See, the Deaf Hear, and Catarrh is impossible.** Actina is an absolute certainty in the cure of **Cataracts, Pterygiums, Granulated Lids, Glaucoma, Amaurosis, Myopia, Presbyopia, Common Sore Eyes, or weakened vision from any cause.** No animal except man wears spectacles. **THESE NEED NOT BE A SPECTACLE USED ON THE STREETS OF THE WORLD, AND RARELY TO READ WITH STREET GLASSES ABANDONED.** Actina also cures **Neuralgia, Headaches, Colds, Sore Throat, Bronchitis and Weak Lungs.** Actina is not a snuff or lotion, but a **Perfect ELECTRIC POCKET BATTERY,** usable at all times and in all places by young or old. The one instrument will cure a whole family of any of the above forms of disease. **A VALUABLE BOOK FREE** on application. Contains Treatise on the Human System, its diseases and cure, and thousands of References and Testimonials. Beware of fraudulent imitations. See that the name **W. C. Wilson, Inventor, Patent No. 341,713,** is stamped on each instrument. None genuine without. **AGENTS WANTED TO CONTROL TERRITORY FOR TERM OF PATENT. LARGE INCOME CAN BE MADE. WRITE FOR TERMS.** **New York & London Electric Assn. 1021 MAIN ST., KANSAS CITY, MO.**

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the KANSAS FARMER.

FARCY.—I have a horse that I think has the farcy. I would be pleased to know whether I can cure him or not.

ANSWER.—If your horse has the farcy there is no cure for him and there is danger that he may communicate the disease to other horses.

SORE HEEL.—I have a mare that has had a sore on her heel for four years. There is a knot about half as large as a hen's egg.

ANSWER.—If caustic will not remove the knot it may have to be removed with the knife before it will heal.

The Farmer in Politics.

Among the men in this country who are able to take a broad and liberal view of subjects of public importance, none are better informed or more correct in their estimates of men and movements than Hon. J. M. Rusk, Secretary of Agriculture.

"The new organizations of the farmers are an indication of the growth of their intellectual life. They are thinking for themselves, and their ideas show that they are awake and that they are studying their own interests.

The Secretary of the Illinois State Board of Agriculture publishes estimates of this year's crops, placing the winter wheat crop at 32,830,718 bushels, most of which will grade No. 2.

We learn that in a recent decision of the United States Circuit Court of Appeals, in New York city, the Whitman Agricultural Co., of St. Louis, Mo., won a final victory over P. K. Dederick, of Albany, on balling press patent.

The Southwick Balling Press, for sale by the Sandwich Mfg. Co., Kansas City, Mo., Station "A."

A CASE OF CHILLS AND FEVER Of Long Standing Finds a Cure.

Extract from a Medical Lecture by Dr. S. B. Hartman.

Several years ago a man forty-five years of age, from a malarious district, came a long distance to consult me for a chronic malarious affection for which he had doctored without intermission for over ten years.

His complexion was of that dirty yellow so characteristic of old ague patients, and his sunken, lusterless eyes, surrounded by dark circles, indicated how completely his health had been undermined.

For this man I prescribed Pe-ru-na and Man-a-lin as directed on the bottles, the Man-a-lin to be used until the bowels became regular and digestion good.

This case is one of which there are thousands in every malarious district who have been many years and still are searching for something to bring relief to their miserable condition.

For a complete treatise on Malaria, Chills, and Fever and Ague, send for The Family Physician No. 1. Sent free by The Pe-ru-na Drug Manufacturing Co., Columbus, O.

MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City, August 8, 1892. CATTLE—Receipts for forty-eight hours, 5,182 cattle, 1,402 calves. Market steady.

St. Louis, August 8, 1892. CATTLE—Receipts, 4,582. Market not strong. Native steers, \$4 00@4 85; Texans, \$2 50@3 30.

Chicago, August 8, 1892. CATTLE—Receipts, 17,000. Market steady. Natives, \$3 50@5 50; cows, \$1 50@3 25; Texans, \$2 50@3 50; westerns, \$2 90@4 20; stockers and feeders, \$1 50@3 50.

GRAIN AND PRODUCE MARKETS.

Kansas City, August 8, 1892.

WHEAT—Receipts in forty-eight hours, 264,000 bushels. There was a general upward movement in this grain. Better cables and more bullish feeling in Chicago caused buyers to bid prices up all around.

HARNESSES FROM \$5.00 UPWARDS. This cut shows our \$5.50 Harness which we make a specialty of and DEFY COMPETITION. BARKLEY \$10.00 ROAD CARTS and upwards.

bushels. A sharp advance was had in this grain, continued hot and dry weather making the "shorts" anxious and encouraging and increased demand from this quarter; and what offering was soon placed.

St. Louis, August 8, 1892. WHEAT—Receipts, 327,000 bushels; shipments, 98,000 bushels. Market opened stronger, closing 1@1 1/4c higher than Saturday.

Chicago, August 8, 1892. WHEAT—Receipts, 253,000 bushels; shipments, 389,000 bushels. No. 2 spring 79c; No. 3 spring, nominal; No. 2 red, 79c.

Wool—Receipts, 226,000 pounds; shipments, 67,400 pounds. Market steady. Missouri and Illinois—Medium, 20a22c; coarse and braid, 18a 19c.

TYLER BROTHERS, GRAIN COMMISSION, Kansas City, Mo. Usual advances on consignments. Daily official Market Report furnished on application.

HALE & McINTOSH Successors to Hale & Painter, LIVE STOCK COMMISSION MERCHANTS, Kansas City Stock Yards, Kansas City.

HARVEST EXCURSIONS!

Will be run on AUGUST 30 and SEPTEMBER 27

The Pecos Valley

The Fruit Belt of New Mexico. Tickets may be bought at any important railway station, in the Northern or Eastern States, to EDDY, NEW MEXICO, and return, GOOD TWENTY DAYS, at ONE FARE FOR THE ROUND TRIP.

ENGINES



When writing any of our advertisers please say you saw their advertisement in KANSAS FARMER.

MORGAN Spading Harrow. The Best all around Rotary Harrow and Pulverizer. NO EQUAL for Fall plowed land, Stubble, Vineyards and Peach Orchards.

Wool SHERMAN HALL & CO. COMMISSION MERCHANTS, 122 MICHIGAN ST., CHICAGO, ILL. Warehouse, Nos. 122 to 128 Michigan St., Nos. 45 to 53 La Salle Avenue.

Wool HAGEY BROS. COM. CO. ST. LOUIS, MO. Office, Cor. Main and Olive Streets. Warehouses, 222-224 North Main Street, 223 and 225 N. Commercial Street.

The Family Doctor.

Conducted by HENRY W. ROBY, M. D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. This department is intended to help its readers acquire a better knowledge of how to live long and well. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

Eating in Hot Weather.

"What shall I eat in hot weather?" is a question that asks itself to many a thinking man and woman. But the asking does not answer the question. "Their meat in due season," is the physical right of every human being. Much attention is paid to the matter of "summer drinks," but who ever heard any discussion of "summer foods?" Yet the need for summer foods is quite as great as that for "summer drinks." In winter, we must eat for two purposes—to nourish the body and to warm it. In the physiological world as in physical, carbon is required to produce heat through chemical action. Coal or wood in the stove and oxygen from the air are the prime requisites for combustion and heat. Carbonaceous food digested and brought into contact with the air in the lungs and capillaries is the prime requisite for calorification of the body. In cold weather the temperature of the atmosphere is many degrees lower than the normal temperature of the body, and for that reason mostly, there is a much more rapid waste of heat from the body than in weather where the atmosphere is much nearer the temperature of the body. In these days, when the thermometer ranges from 90° to 100°, comparatively little carbon is required in the food to maintain the 5° to 8° of heat difference between the atmosphere and standard bodily temperature of 98½°. If more caloric is produced in the system than is needed to maintain 98½°, then the surplus must be thrown off by a more vigorous respiration and transpiration through the sweat glands, and that taxes the body needlessly. Nature will only appropriate enough of either kind of food to maintain the standard equilibrium of nutrition or calorification. All surplus of food is rejected from the economy unused, mostly by the chemical process of decomposition, which converts the surplus into primary gases, which escape from the body in various ways.

It will be readily seen that nearly all fat foods, which are largely carbonaceous, should be avoided in hot weather, and that the nutrient foods, the grains and fruits and vegetables, should largely preponderate in the summer dietary.

People in the tropics live largely on fruits and vegetables the year round, adding somewhat of fish and oysters, etc., which contain but small quantities of fat.

Let this be your guide, as the weather grows hotter: Eat less and less of fat meat and butter, less of all starchy food, such as potatoes, white bread, rice and corn bread. But return gradually to them in the autumn as the weather cools down. Eat in hot weather not over two-thirds as much of any kind of food as in cold weather, and eat largely of vegetables and fruits, with bread made from entire or whole wheat flour, and a small quantity of lean meat, fish, game, etc. Leave off all fat gravies and greasy compounds.

A thousand people, probably, die from eating too much where one dies from eating too little in the ordinary conditions of life in this country. At all seasons, one may safely eat an abundance of milk and eggs, for they are the two only foods in market containing all the chemical and nutritive elements of the body, and in the proper proportion for perfect nutrition.

Towards the close of his life Thomas Jefferson said that he had no regret for ever having eaten too little, but had many regrets for having eaten too much on many occasions. As a rule people eat too much and thereby lay on themselves a serious tax. But that tax is only partly payable in money, representing the unnecessary cost of the surplus food, but the balance of the tax is the added labor imposed on the system of getting rid of the surplus. And that very tax is a good many times the cause of the premature funeral. If a man's physical frame is over-worked he must break down prematurely. If his physiological organization is over-worked, it of necessity breaks down before its allotted time.

Well Machinery Send for illus. cat'g. Peck Mfg. Co., 60 4th St., Sioux City, Iowa.

Stomach and Longevity.

Find a well preserved old man and you will generally find him with a pet theory as to how longevity can be encouraged. The Treasurer of a Connecticut railroad who died a few years ago in his 101st year, and who worked in his office every day up to his 100th birthday, said he attributed his long life to the fact that he had never allowed a pound of bolted flour in his house, and had never in his long life tasted bread made from bolted flour. Another old gentleman who had reached the ripe age of 90 years thought he owed his long life to the fact that during the last 40 years of it he had taken his toddy regularly three times a day. Another said his long life was due to his regular hours, and when told that Peter Cooper was irregular in his hours, ate late suppers, etc., and still lived to within a few years of 100 replied: "Well if he'd been regular he might have lingered over into his second century." Gladstone insists that he owes his long life and hearty old age to perfect digestion, and his perfect digestion to the fact that he never swallows a bolus of food before he has chewed it thirty-two times. Think of that, you human ostrich, as you stand before a railroad lunch counter and swallow thirty-two boluses with one chew. Think of it and then, as dyspepsia, biliousness, headache, neurasthenia and bad temper and paresis, too, come rolling in on you, wishing in vain that you, too, had done as the g. o. m. has.—Cincinnati Times-Star.

Are You Anxious

To better your condition by seeking a new location for a home in a rich, healthy and productive section? If so, take advantage of the Home-Seekers' Excursion on August 30 and visit what is now commonly called the Aransas Pass country, located in south Texas. Lands are cheap, rich and productive. Climate, which is an important factor in selecting a home, very healthy. The first bale of cotton marketed in the last five years came from this section. All kinds of small grain do well. Vegetables of all kinds ripen and are marketed weeks in advance of any other section, thereby realizing to the producer the highest cash prices. Orchards are being planted, and vineyards now producing grapes equal in quantity and quality to those raised anywhere, many of the vineyards realizing as high as \$400 to the acre. One need only visit and inspect this country to be convinced of its desirability as a farming country. By purchasing tickets to Rockport, Corpus Christi, Beeville or Kerrville, one has an opportunity of seeing nearly all of Texas. If you will write to J. H. Littlefield, 105 North Broadway, St. Louis, Mo., or to R. W. Andrews, San Antonio, Texas, you can obtain free maps and descriptive pamphlets.

Fiber Report No. 4, just issued by the United States Department of Agriculture, is a report on flax culture for fiber in the United States and was prepared by Charles Richards Dodge, special agent in charge of fiber investigations. It contains a very full report on the field experiments made during the season of 1891, especially those conducted under the auspices of the experiment stations of several States, and a chapter on methods of culture, including preparation of the soil, quantity of seed sown, harvesting of the crop, etc., with instructions in regard to the retting and cleaning of flax. Mr. Eugene Bosse, a practical Belgian flax-grower, now a citizen of the United States, who served for some time last year as a special agent of the department in the Northwest, contributes an interesting report on his observations in Wisconsin, Minnesota, Iowa, and South Dakota, concluding with a special report on flax culture in Wisconsin and Minnesota. A chapter on flax culture in Ireland and Belgium is contributed by Mr. Henry Wallace, of Des Moines, Iowa. There is also a chapter on flax culture in Austria, and another on flax culture in Russia. Statistics of flax culture in the United States based upon the results of the eleventh census are included in an appendix. The publication will be mailed to those applying for it to the Secretary of Agriculture, Washington, D. C.

Lyon & Healy, the music firm of Chicago, now publish and mail free upon application, fifty-four different catalogues which describe and illustrate everything from a file to a church organ. And it pays them, too, for great is the power of printer's ink.

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Miss Ella Potts, a Chicago teacher, told her pupils one "composition day" that they might each write a letter to her making an excuse for not inviting her to an imaginary birthday party. The scholars were called upon in turn to read their letters aloud. One little girl made her excuse as follows: "Dear Miss Potts: I want to apologize for not asking you to come to my birthday party yesterday. I fully intended to do so, but—as I always do in everything—I put it off until the last minute. When at last I started, and reached your gate, I saw the doctor's buggy standing there, and, thinking some one was very ill, I did not go in. What was my consternation the next day to learn that the doctor was courting your sister!"

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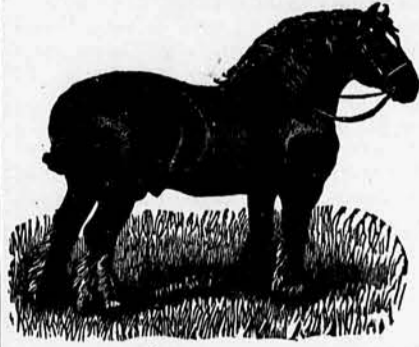
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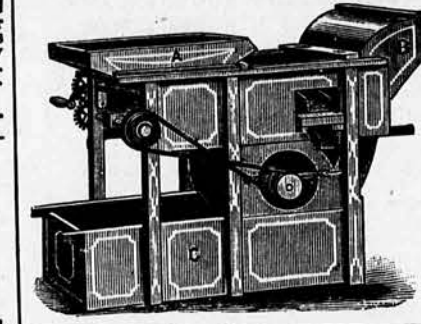
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Sheriff's Sale.

[First publication August 3, 1892.] In the District Court, Third Judicial District, Shawnee county, Kansas. H. H. Parker, Plaintiff, vs. Mark L. Hambridge, Plaintiff, James T. Best, Vesta C. Best, Henry Schlaut and Martha L. Campbell, Defendants. Case No. 13,778.

BY VIRTUE of an order of sale, issued out of the District court, in the above entitled case, to me directed and delivered, I will on Monday, the 5th day of September, 1892, at a sale to begin at 10 o'clock a. m. of said day, at the front door of the court house, in the city of Topeka, in Shawnee county, State of Kansas, offer for sale at public auction and sell to the highest bidder, for cash in hand, the following described real estate and appurtenances belonging thereto, to-wit: Lot number 158, on Liberty street, in Veale's addition to the city of Topeka, in Shawnee county, Kansas. Said real estate is taken as the property of said defendants, and will be sold to satisfy said order of sale. The purchaser will be required to pay cash for said property at the time of sale. Given under my hand, at my office, in the city of Topeka, Shawnee county, Kansas, this 29th day of July, 1892. J. M. WILKERSON, Sheriff.

Sheriff's Sale.

In the District Court, Third Judicial District, Shawnee county, Kansas. H. H. Parker, Plaintiff, vs. W. H. Warren, Defendant. Case No. 13,974.

BY VIRTUE of an order of sale, issued out of the District court, in the above entitled case, to me directed and delivered, I will on Monday, the 22d day of August, 1892, at a sale to begin at 10 o'clock a. m. of said day, at the front door of the court house, in the city of Topeka, in Shawnee county, State of Kansas, offer for sale at public auction and sell to the highest bidder for cash in hand, the following described real estate and appurtenances belonging thereto, to-wit: Lot number 361 and the west half of lot numbered 363, on east Sixth street, in the city of Topeka, in Shawnee county, Kansas, subject to a mortgage of \$200. Said real estate is taken as the property of said defendant, and is appraised at the sum of \$650, and will be sold to satisfy said order of sale. The purchaser will be required to pay cash for said property at the time of sale. Given under my hand, at my office, in the city of Topeka, Shawnee county, Kansas, this 9th day of July, 1892. J. M. WILKERSON, Sheriff.

HENRY W. ROBY, M. D., Surgeon.

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