

KANSAS FARMER

ESTABLISHED IN 1863.
VOL. XXXVI. NO. 43.

TOPEKA, KANSAS, THURSDAY, OCTOBER 27, 1898.

SIXTEEN TO TWENTY
PAGES—\$1.00 A YEAR.

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Agricultural Matters.

THE COMING SHORTAGE OF BREAD-STUFFS.

From the annual address of Sir William Crookes, President of the British Association for the Advancement of Science.

(Continued from last week.)

THE AID OF THE CHEMIST.

I have said that starvation may be averted through the laboratory. Before we are in the grip of actual dearth the chemist will step in and postpone the day of famine to so distant a period that we, and our sons and grandsons, may legitimately live without undue solicitude for the future.

It is now recognized that all crops require what is called a "dominant" manure. Some need nitrogen, some potash, others phosphates. Wheat pre-eminently demands nitrogen, fixed in the form of ammonia or nitric acid. All other necessary constituents exist in the soil; but nitrogen is mainly of atmospheric origin, and is rendered "fixed" by a slow and precarious process which requires a combination of rare meteorological and geographical conditions to enable it to advance at a sufficiently rapid rate to become of commercial importance.

SOURCES OF NITROGEN.

There are several sources of available nitrogen. The distillation of coal in the process of gas-making yields a certain amount of its nitrogen in the form of ammonia; and this product, as sulphate of ammonia, is a substance of considerable commercial value to gas companies. But the quantity produced is comparatively small; all Europe does not yield more than 400,000 annual tons, and, in view of the unlimited nitrogen required to substantially increase the world's wheat crop, this slight amount of coal ammonia is not of much significance. For a long time guano has been one of the most important sources of nitrogenous manures, but guano deposits are so near exhaustion that they may be dismissed from consideration.

LEGUMINOUS PLANTS.

Much has been said of late years, and many hopes raised by the discovery of Hellriegel and Wilfarth that leguminous plants bear on their roots nodosities abounding in bacteria endowed with the property of fixing atmospheric nitrogen; and it is proposed that the necessary amount of nitrogen demanded by grain crops should be supplied to the soil by cropping it with clover and plowing in the plant when its nitrogen assimilation is complete. But it is questionable whether such a mode of procedure will lead to the lucrative stimulation of crops. It must be admitted that practice has long been ahead of science, and for ages farmers have valued and cultivated leguminous crops. The four-course rotation is turnips, barley, clover, wheat—a sequence popular more than two thousand years ago. On the Continent, in certain localities, there has been some extension of microbe cultivation; at home we have not reached even the experimental stage. Our present knowledge leads to the conclusion that the much more frequent growth of clover on the same land, even with successful microbe-seeding and proper mineral supplies, would be attended with uncertainty and difficulties. The land soon becomes what is called "clover sick" and turns barren.

There is still another and invaluable source of fixed nitrogen. I mean the treasure locked up in the sewage and drainage of our towns. Individually the amount so lost is trifling, but multiply the loss by the number of inhabitants, and we have the startling fact that, in the United Kingdom, we are content to hurry down our drains and water courses into the sea fixed nitrogen to the value of no less than £16,000,000 per annum. This unspeakable waste continues, and no effective and universal method is yet contrived of converting sewage into corn. Of this barbaric waste of manurial constituents Liebig, nearly half a century ago, wrote in these prophetic words: "Nothing will more certainly consummate the ruin of England than a scarcity of fertilizers—it means a scarcity of food. It is impossible that such a sinful violation of the divine laws of Nature should for ever remain unpunished; and the time will probably come for England sooner than for any other country, when, with all her wealth in gold, iron, and coal, she will be unable to buy one-thousandth part of the food which she has, during hundreds of years, thrown recklessly away."

THE WASTEFUL SYSTEM.

The more widely this wasteful system is extended, recklessly returning to the sea what we have taken from the land, the more surely and quickly will the

finite stocks of nitrogen locked up in the soils of the world become exhausted. Let us remember that the plant creates nothing: there is nothing in bread which is not absorbed from the soil, and unless the abstracted nitrogen is returned to the soil, its fertility must ultimately be exhausted. When we apply to the land nitrate of soda, sulphate of ammonia, or guano, we are drawing on the earth's capital, and our drafts will not perpetually be honored. Already we see that a virgin soil cropped for several years loses its productive powers and without artificial aid becomes infertile. Thus the strain to meet demands is increasingly great. Witness the yield of forty bushels of wheat per acre under favorable conditions, dwindling through exhaustion of soil to less than seven bushels of poor grain, and the urgency of husbanding the limited store of fixed nitrogen becomes apparent. The store of nitrogen in the atmosphere is practically unlimited, but it is fixed and rendered assimilable by plants only by cosmic processes of extreme slowness. The nitrogen which with a light heart we liberate in battleship broadside, has taken millions of minute organisms patiently working for centuries to win from the atmosphere.

CHILI SALTPETER.

The only available compound containing sufficient fixed nitrogen to be used on a world-wide scale as a nitrogenous manure is nitrate of soda, or Chili saltpeter. This substance occurs native over a narrow band of the plain of Tamarugal, in the northern provinces of Chili between the Andes and the coast hills. In this rainless district for countless ages the continuous fixation of atmospheric nitrogen by the soil, its conversion into nitrate by the slow transformations of billions of nitrifying organisms, its combination with soda, and the crystallization of the nitrate, have been steadily proceeding until the nitrate fields of Chili have become of vast commercial importance, and promise to be of inestimable greater value in the future. The growing exports of nitrate from Chili at present amount to about 1,200,000 tons.

WORLD'S ACREAGE OF WHEAT.

The present acreage devoted to the world's growth of wheat is about 163,000,000 acres. At the average of 12.7 bushels per acre this gives 2,070,000,000 bushels. But thirty years hence the demand will be 3,260,000,000 bushels, and there will be difficulty in finding the necessary acreage on which to grow the additional amount required. By increasing the present yield per acre from 12.7 to 20 bushels we should with our present acreage secure a crop of the requisite amount. Now from 12.7 to 20 bushels per acre is a moderate increase of productivity, and there is no doubt that a dressing with nitrate of soda will give this increase and more.

The action of nitrate of soda in improving the yield of wheat has been studied practically by Sir John Lawes and Sir Henry Gilbert on their experimental field at Rothamstead. This field was sown with wheat for thirteen consecutive years without manure, and yielded an average of 11.9 bushels to the acre. For the next thirteen years it was sown with wheat, and dressed with five hundredweight of nitrate of soda per acre, other mineral constituents also being present. The average yield for these years was 36.4 bushels per acre—an increase of 24.5 bushels. In other words, 22.86 pounds of nitrate of soda produce an increase of one bushel of wheat.

AMOUNT OF FERTILIZER REQUIRED

At this rate, to increase the world's crop of wheat by 7.3 bushels, about one and one-half hundredweight of nitrate of soda must annually be applied to each acre. The amount required to raise the world's crop on 163,000,000 acres from the present supply of 2,070,000,000 bushels to the required 3,260,000,000 bushels will be 12,000,000 tons distributed in varying amounts over the wheat-growing countries of the world. The countries which produce more than the average of 12.7 bushels will require less, and those below the average will require more; but broadly speaking, about 12,000,000 tons annually of nitrate of soda will be required, in addition to the one and one-quarter million tons already absorbed by the world.

It is difficult to get trustworthy estimates of the amount of nitrate surviving in the niter beds. Common rumor declares the supply to be inexhaustible, but cautious local authorities state that at the present rate of export, of over one million tons per annum, the raw material "caliche" containing from 25 to 50 per cent. nitrate, will be exhausted in from twenty to thirty years.

Dr. Newton, who has spent years on the nitrate fields, tells me there is a lower class of material containing a small proportion of nitrate which cannot at present be used, but which may ultimately be

manufactured at a profit. Apart from a few of the more scientific manufacturers, no one is sanguine enough to think this debatable material will ever be worth working. If we assume a liberal estimate for nitrate obtained from the lower grade deposit, and say that it will equal in quantity that from the richer quality, the supply may last, possibly, fifty years, at the rate of a million tons a year; but at the rate required to augment the world's supply of wheat to the point demanded thirty years hence, it will not last more than four years.

THE LAST AVAILABLE ACRE IN SIGHT.

I have passed in review all the wheat-growing countries of the world, with the exception of those whose united supplies are so small as to make little appreciable difference to the argument. The situation may be summed up briefly thus: The world's demand for wheat—the leading bread-stuff—increases in a crescendo ratio year by year. Gradually all the wheat-bearing land on the globe is appropriated to wheat-growing, until we are within measurable distance of using the last available acre. We must then rely on nitrogenous manures to increase the fertility of the land under wheat, so as to raise the yield from the world's low average—12.7 bushels per acre—to a higher average. To do this efficiently and feed the bread-eaters for a few years will exhaust all the available store of nitrate of soda. For years past we have been spending fixed nitrogen at a culpably extravagant rate (heedless of the fact that it is fixed with extreme slowness and difficulty) while its liberation in the free state takes place always with rapidity and sometimes with explosive violence.

JEVONS' WARNING.

Some years ago Mr. Stanley Jevons uttered a note of warning as to the near exhaustion of our British coal fields. But the exhaustion of the world's stock of fixed nitrogen is a matter of far greater importance. It means not only a catastrophe little short of starvation for the wheat-eaters, but indirectly, scarcity for those who exist on inferior grains, together with a lower standard of living for meat-eaters, scarcity of mutton and beef, and even the extinction of gunpowder!

A GLEAM OF LIGHT.

There is a gleam of light amid this darkness of despondency. In its free state nitrogen is one of the most abundant and pervading bodies on the face of the earth. Every square yard of the earth's surface has nitrogen gas pressing down on it to the extent of about seven tons (but this is in the free state, and wheat demands it fixed). To convey this idea in an object-lesson, I may tell you that, previous to its destruction by fire, Colston Hall, measuring 146 feet by 80 feet by 70 feet, contained twenty-seven tons weight of nitrogen in its atmosphere; it also contained one-third of a ton of argon. In the free gaseous state this nitrogen is worthless; combined in the form of nitrate of soda it would be worth about £2,000 [\$10,000].

For years past attempts have been made to effect the fixation of atmospheric nitrogen, and some of the processes have met with sufficient partial success to warrant experimentalists in pushing their trials still further; but I think I am right in saying that no process has yet been brought to the notice of scientific or commercial men which can be considered successful either as regards cost or yield of product. It is possible, by several methods, to fix a certain amount of atmospheric nitrogen; but to the best of my knowledge no process has hitherto converted more than a small amount, and this at a cost largely in excess of the present market value of fixed nitrogen.

AWAITING DISCOVERY.

The fixation of atmospheric nitrogen therefore is one of the great discoveries awaiting the ingenuity of chemists. It is certainly deeply important in its practical bearings on the future welfare and happiness of the civilized races of mankind. This unfulfilled problem, which so far has eluded the strenuous attempts of those who have tried to wrest the secret from nature, differs materially from other chemical discoveries which are in the air, so to speak, but are not yet matured. The fixation of nitrogen is vital to the progress of civilized humanity. Other discoveries minister to our increased intellectual comfort, luxury, or convenience; they serve to make life easier, to hasten the acquisition of wealth, or to save time, health, or worry. The fixation of nitrogen is a question of the not far distant future. Unless we can class it among certainties to come the great Caucasian race will cease to be foremost in the world, and will be squeezed out of existence by races to

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whom wheaten bread is not the staff of life.

ELECTRICITY TO THE RESCUE.

Let me see if it is not possible even now to solve the momentous problem. As far back as 1892 I exhibited at one of the Soirées of the Royal Society an experiment on "The Flame of Burning Nitrogen." I showed that nitrogen is a combustible gas and the reason why when once ignited the flame does not spread through the atmosphere and deluge the world in a sea of nitric acid is that its igniting point is higher than the temperature of its flame—not, therefore, hot enough to set fire to the adjacent mixture. But by passing a strong induction current between terminals the air takes fire and continues to burn with a powerful flame, producing nitrous and nitric acid. This inconsiderable experiment may not unlikely lead to the development of a mighty industry destined to solve the great food problem. With the object of burning out nitrogen from air, so as to leave argon behind, Lord Rayleigh fitted up apparatus for performing the operation on a larger scale, and succeeded in effecting the union of 29.4 grammes of mixed nitrogen and oxygen at an expenditure of one horse power. Following these figures it would require one Board of Trade unit to form seventy-four grammes of nitrate of soda, and therefore 14,000 units to form one ton. To generate electricity in the ordinary way with steam engines and dynamos, it is now possible with a steady load night and day, and engines working at maximum efficiency, to produce current at a cost of one-third of a penny [two-thirds of a cent] per Board of Trade unit. At this rate one ton of nitrate of soda would cost £26 [about \$130]. But electricity from coal and steam engines is too costly for large industrial purposes; at Niagara, where water power is used, electricity can be sold at a profit for one-seventeenth of a penny per Board of Trade unit. At this rate nitrate of soda would cost not more than £5 [\$25] per ton. But the limit of cost is not yet reached, and it must be remembered that the initial data are derived from small scale experiments, in which the object was not economy, but rather to demonstrate the practicability of the combustion method, and to utilize it for isolating argon. Even now electric nitrate at £5 a ton compares favorably with Chili nitrate at £7 10s. a ton; and all experience shows that when the road has been pointed out by a small laboratory experiment the industrial operations that may follow are always conducted at a cost considerably lower than could be anticipated from the laboratory figures.

NIAGARA IS POTENT.

Before we decide that electric nitrate is a commercial possibility a final question must be mooted. We are dealing with wholesale figures, and must take care that we are not simply shifting difficulties a little further back without really diminishing them. We start with a shortage of wheat, and the natural remedy is to put more land under cultivation. As the land cannot be stretched and there is so much of it and no more, the object is to render the available area more productive by a dressing with nitrate of soda. But nitrate of soda is limited in quantity, and will soon be exhausted. Human ingenuity can contend even with these apparently hopeless difficulties. Nitrate can be produced artificially by the combustion of the atmosphere. Here we come to finality in one direction, our stores are inexhaustible. But how about electricity? Can we generate enough energy to produce 12,000,000 tons of nitrate of soda annually. A preliminary calculation shows that there need be no fear on that score; Niagara alone is capable of supplying the re-

quired electric energy without much lessening its mighty flow. The future can take care of itself. The artificial production of nitrate is clearly within view, and by its aid the land devoted to wheat can be brought up to the thirty bushels per acre standard. In days to come, when the demand may again overtake supply, we may safely leave our successors to grapple with the stupendous food problem.

TO THE TROPICS.

And in the next generation instead of trusting mainly to food-stuffs which flourish in temperate climates, we probably shall trust more and more to the exuberant food-stuffs of the tropics, where, instead of one yearly sober harvest, jeopardized by any shrinkage of the scanty days of summer weather, or of the few steady inches of rainfall, Nature annually supplies heat and water enough to ripen two or three successive crops of food-stuffs in extraordinary abundance. To mention one plant alone, Humboldt—from what precise statistics I know not—computed that, acre for acre, the food-productiveness of the banana is 133 times that of wheat—the unripe banana, before its starch is converted into sugar, is said to make excellent bread. Considerations like these must in the end determine the range and avenues of commerce, perhaps the fate of continents. We must develop and guide Nature's latent energies, we must utilize her inmost workshops, we must call into commercial existence central Africa and Brazil to redress the balance of Odessa and Chicago.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

- OCTOBER 31 AND NOVEMBER 1, 2, 3—C. H. Whitman, Herefords, Kansas City, Mo.
NOVEMBER 3—John Bollin, Poland-Chinas, Kikapoo, Kas.
NOVEMBER 3—Guss Aaron, Poland-Chinas, Leavenworth, Kas.
NOVEMBER 10—J. R. Willson, Marion, Kas., Poland-China swine.
NOVEMBER 15-16—Gudgell & Simpson and Jas. A. Funkhouser, Herefords, Kansas City, Mo.
NOVEMBER 17-19—W. T. Clay and H. C. Duncan, Short-horns, Kansas City, Mo.
NOVEMBER 22—George Bothwell, Short-horns, Nettleton, Mo.; sale at Kansas City, Mo.
NOVEMBER 23—W. P. Harned, Short-horns, Bunce ton, Mo.
NOVEMBER 30—Scott & March, Belton, Mo., Herefords, Kansas City, Mo.
DECEMBER 8—Miles Bros., Poland-Chinas, Peabody, Kas.
DECEMBER 15 AND 16—C. G. Comstock, Albany, Mo., Herefords, Kansas City, Mo.

THE LIVE STOCK SHOW

At the Trans-Mississippi Exposition, at Omaha, Neb.

(Continued from last week.)

BERKSHIRE SWINE.

The expert judge in this class was W. D. Spicer, of Illinois, formerly of Nebraska. The principal exhibits were made by Reuben Gentry, Danville, Ky.; John B. Thompson, Plattsburg, Mo.; Seven Oaks farm, New Sharon, Iowa; Harris & McMahon, Lamar, Mo.; and Townley Bros., Octavia, Neb.

The following is a complete list of awards: Boar, 2 years and over, seven entries—First and second Reuben Gentry, third Harris & McMahon, fourth Seven Oaks stock farm.

Yearling boar, four entries—First and second Gentry, third Harris & McMahon, fourth Thompson.

Boar, 6 months, five entries—First Gentry, second Seven Oaks farm, third Harris & McMahon, fourth Thompson.

Boar under 6 months, four entries—First Thompson, second and third Harris & McMahon, fourth Thompson.

Aged sow, over 2 years, eight entries—First Gentry, second Harris & McMahon, third Townley Bros., fourth Seven Oaks farm.

Yearling sow, eight entries—First and second Harris & McMahon, third Gentry, fourth Seven Oaks farm, fifth Thompson.

Sow, 6 months, eight entries—First and third Gentry, second Thompson, fourth Townley Bros.

Sow under 6 months, eight entries—First Thompson, second Gentry, third Harris & McMahon, fourth Seven Oaks farm.

Boar and three sows over 1 year, four entries—First Gentry, second Harris & McMahon, third Thompson, fourth Seven Oaks farm.

Boar and three sows bred by exhibitor, seven entries—First Harris & McMahon, second Gentry, third Thompson, fourth Townley Bros.

Boar and three sows under 1 year, five entries—First Gentry, second Thompson, third Harris & McMahon, fourth Seven Oaks farm.

Four swine, get of same boar, bred by exhibitor, seven entries—First Townley Bros., second and fourth Harris & McMahon, third Thompson.

Four pigs under 6 months, produce of same sow—First Harris & McMahon, second Seven Oaks farm, third Thompson.

Sweepstakes boar, any age, five entries—first and second Gentry, third Harris & McMahon.

Sweepstakes sow, any age, eight entries—First Gentry, second and third Harris & McMahon, fourth Townley Bros.

Sweepstakes boar, any age, bred by exhibitor, four entries—First Harris & McMahon, second Townley Bros., third

Thompson, fourth Gentry. Sweepstakes sow, any age, bred by exhibitor, six entries—First and second Harris & McMahon, third Townley Bros., fourth Thompson.

POLAND-CHINAS.

Mr. F. M. Lail, of Marshall, Mo., placed the ribbons in this division.

Boars 2 years and over.—In this class the blue ribbon went to Chief Tecumseh 3d, the joint property of Harvey Johnson, Logan, Iowa, and Sam McKelvie, Fairfield, Neb. Second place was given Thos. Stevenson, Ft. Scott, Mo.; third to Risk & Gabbert, Weston, Mo.; fourth to Hoover & Harrison, Oskaloosa, Iowa, and fifth to A. W. Albertson, Inwood, Iowa. Other entries in this class were those of Wm. Uhe, Papillion, Neb.; G. F. Marshall, Monroe, Iowa; E. E. Day, Weeping Water, Neb.; R. S. Cook, Wichita, Kas.; D. S. Roush, Grand Island, Neb.; J. R. Watts, Waterloo, Neb., and Richey Bros., St. Charles, Iowa.

Yearling Boars.—Perfect I Know, the one boar at the head of W. N. Winn & Son's herd, at Kansas City, Mo., won the blue; second to Risk & Gabbert; third to J. Mandelbaum, Blue Hill, Neb.; fourth to A. J. Lytle, Oskaloosa, Iowa; fifth to Dawson Bros., Endicott, Neb. The unplaced contestants were: Kirkpatrick & Son, Connor, Kas.; G. F. Marshall, H. G. Sims, Smith Center, Kas.; D. F. Risk, P. J. Gossard, Friend, Neb.; and Risk & Gabbert and J. Mandelbaum, with second entries.

Boars under 1 year.—The blue ribbon fell to the fine boar, Fitzhugh Lee, owned by D. F. Risk, of Weston, Mo., while John Blain's great young boar, Sampson by L's What's Wanted, captured the red. Others as follows: Third to E. H. Andrews, Kearney, Neb., on Midway King; fourth to John Blain, Pawnee City, Neb. (boar of same litter with Sampson); sixth to Risk & Gabbert, on Omaha I Know. The unplaced were: G. F. Marshall, two entries; Hoover & Harrison, two entries; A. J. Lytle, two entries; F. M. McDiarmid, Cumberland, Iowa, two entries; C. F. Hutchinson, Bellaire, Kas., two entries; Harvey Johnson, two entries; Elm Beach farm, Wichita, Kas., two entries; R. S. Cook; J. G. Lytle, Oskaloosa, Iowa; John O'Connell; Kirkpatrick & Son, and Dawson Bros.

Boars under 6 months.—Kansas scored a hit here, the fine pig shown by H. G. Sims being an outstanding first. Second place fell to Risk & Gabbert, third to Dawson Bros., fourth to McDiarmid, fifth to Hoover & Harrison. The youngsters returned to the pens ribbonless were those of R. S. Cook, two entries; Harvey Johnson, two entries; W. P. Goode, Lenexa, Kas., two entries; J. Mandelbaum; Albertson & Son; C. Gloe, Clinton, Iowa; A. J. Lytle; E. E. Day, Wiley & Hoadley, Smithton, Mo., and second entries by McDiarmid and Hoover & Harrison.

Sow 2 years and over.—Dawson Bros.' fine show sow, Directress, led off with the blue ribbon, followed by Risk & Gabbert for second place; third to A. J. Lytle, fourth to John O'Connell, and fifth to C. H. Beebe. Those who captured the sour grapes this time were Harvey Johnson, J. R. Watts, Elm Beach farm, D. W. Roush and G. F. Marshall.

Yearling sows.—Risk & Gabbert swept off first and third prizes with a pair of nicely finished sows, while D. F. Risk caught second and fourth with two plums from the Bear Creek herd. W. G. Titsworth, of Avoca, Iowa, got fifth place. Others were Dawson Bros., two entries; P. J. Gossard, two entries; Kirkpatrick, two entries; W. P. Hayzlett, Maitland, Mo.; A. J. Lytle, two entries; McDiarmid, Sims and McKelvie.

Sows under 1 year.—Harvey Johnson got first place, second to R. S. Cook, third to D. F. Risk, fourth to Risk & Gabbert, fifth to A. J. Lytle. G. F. Marshall two entries, Elm Beach farm two entries, Hutchinson two entries, Kirkpatrick & Son two entries, Dawson Bros., O'Connell, Hayzlett, McDiarmid, and second entries by Johnson, Lytle and Risk & Gabbert.

Sows under 6 months.—This was another strong ring, with W. N. Winn & Son an easy first, second to J. Mandelbaum, third to Risk & Gabbert, fourth to Hoover & Harrison, fifth to D. F. Risk. The "other pebbles" in this instance were: Cook, Dawson Bros., Watts, Goode & Son, Wiley & Harrison, J. H. VanBuren, A. J. Lytle two entries, McDiarmid two entries, L. Maas-daw, Pella, Iowa, and second entries by Hoover & Harrison, Winn & Son and D. F. Risk.

Aged herds.—Risk & Gabbert got first place, second to D. F. Risk, third to Dawson Bros., fourth to A. J. Lytle, fifth to Elm Beach farm (C. M. Irwin, proprietor). Herd any age, bred by exhibitor.—First Risk & Gabbert, second D. F. Risk, third Dawson Bros., fourth A. J. Lytle, fifth G. F. Marshall.

Boar and three sows under 1 year.—First to Risk & Gabbert, second to A. J. Lytle, third to G. F. Marshall, fourth to Hoover & Harrison, fifth to R. S. Cook; Kirkpatrick, Johnson and O'Connell unplaced.

Boar and three sows bred by exhibitor.—Awards same as in last class.

Four swine, the get of one boar.—First Risk & Gabbert, second A. J. Lytle, third Hoover & Harrison, fourth G. F. Marshall, fifth McDiarmid.

Pigs under 6 months, produce of one sow.—First Hoover & Harrison, second Harvey Johnson, third McDiarmid, fourth Winn & Son, fifth Dawson Bros.

Sweepstakes sow, any age.—First Risk & Gabbert, second D. F. Risk, third Dawson Bros., fourth Risk & Gabbert, fifth Harvey Johnson.

Sweepstakes boar, any age.—First Winn & Son, second Johnson & McKelvie, third Thos. Stevenson, fourth D. F. Risk, fifth Sims.

Boars, any age, bred by exhibitor.—First Risk & Gabbert, second D. F. Risk, third John Blain.

Sows, any age, bred by exhibitor.—First Risk & Gabbert, second D. F. Risk, third Dawson Bros., fourth Risk & Gabbert, fifth Harvey Johnson.

DUROC-JERSEY SWINE.

The complete list of exhibitors in this department: C. A. Thomas, Monticello, Iowa; John Henderson, Panora, Iowa; Wm. H. Taylor & Sons, Lincoln, Neb.; Orrie Walter, Lebanon, Ohio; Wm. Roberts & Son, Paton, Iowa; Geo. W. Trone, Rushville, Ill.; C. H. Searle, Edgar, Neb.; Hugh B. Loudon & Son, Clay Center, Neb.; W. P. Clarke, Monticello, Iowa; B. M. Richmond, Normal, Neb.; Jesse McCarthy, Bellvue, Neb.; D. S. Roush, Grand Island, Neb.

Boar 2 years or over, four entries—First Roberts & Son, second Henderson, third Taylor, fourth Walter.

Boar 1 year and under 2, six entries—

First Searle, second Trone, third Searle, fourth Roberts, fifth Henderson. Boar 6 months and under 1 year, eight entries—First Searle, second Loudon, third Walter, fourth Henderson.

Boar under 6 months, eleven entries—First Loudon & Son, second Roberts & Son, third Roush, fourth Taylor & Son.

Sow 2 years or over, ten entries—First and second Roberts & Son, third Trone, fourth Searle.

Sow 1 year and under 2, ten entries—First Trone, second Searle, third Loudon & Son, fourth Searle.

Sow 6 months and under 1 year, eleven entries—First Roberts & Son, second Taylor & Son, third Searle, fourth Walter.

Sow under 6 months, twelve entries—First Searle, second Henderson, third Loudon & Son.

Boar and three sows, over 1 year, six entries—First Searle, second Trone, third Roberts, fourth Henderson.

Boar and three sows, bred by exhibitor, ten entries—First Searle, second Trone, third Roberts, fourth Henderson.

Boar and three sows, under 1 year, seven entries—First Loudon & Son, second Searle, third Taylor & Sons, fourth Roberts & Son.

Four swine, the get of the same boar, bred by exhibitor, nine entries—First and second Searle, third Trone, fourth Taylor & Sons.

Four pigs under 6 months, produce of same sow, six entries—First Loudon & Son, second Henderson, third Searle, fourth Shinn.

Sweepstakes boar, any age, seven entries—First Searle, second Roberts & Son, third Loudon & Son, fourth Searle.

Sweepstakes sow, any age, seventeen entries—First Trone, second Roberts & Son, third and fourth Searle.

Sweepstakes boar, any age, bred by exhibitor, thirteen entries—First Searle, second Trone, third Searle, fourth Walter.

Sweepstakes sow, any age, bred by exhibitor, sixteen entries—First Trone, second Roberts & Son, third and fourth Searle.

HORSES.

The Exposition brought together a very creditable showing of horses, especially of draft and coach stock. With only a very few exceptions the great stables of draft horses remaining in the country were represented at the Exposition show.

Joe Watson, of Nebraska, tied the ribbons in the draft classes, with general satisfaction. Awards were as follows:

SHIRES.

Stallion, 4 years and over—First and second R. Burgess & Sons, Winona, Ill.

Stallion, 3 years—First R. Burgess & Sons.

Stallion, 2 years—First and second R. Burgess & Sons.

Stallion, 1 year—First and third R. Burgess & Sons, second Frank Iams, St. Paul, Neb.

Stallion colt—First R. Burgess & Sons.

Stallion and three of his get under 4 years—First and second R. Burgess & Sons.

Mare 4 years and over—First Frank Iams.

Mare, 3 years—First Frank Iams.

Sweepstakes mare, any age—First and second Frank Iams.

Sweepstakes stallion, any age—First Robert Burgess & Sons. There were five entries here, classed as follows: First Haukstone, second Sparkle, third General Miles, fourth Armenia, fifth Jim Corbett. Haukstone won in two classes as sire and three of his colts under 4 years, also as stallion 4 years and over. General Miles won first in a strong yearling class. Haukstone is a strong Shire type—low down, strong limbed and with great weight. That he is a sire fit to perpetuate the race, was proven by the long string of his get shown as prize-winners in the classes.

CLYDESDALES.

C. E. Clark, St. Cloud, Minn., won all first and second premiums, except a red ribbon in the class for mares 4 years and over, which went to Frank Iams, St. Paul, Neb.

In the sweepstakes class for first and second prize winners, the first place in stallion class went to The Abbott, an American-bred Darnley of great style and vigor. The yearling, Prince McGreggor, which stood fourth in his class, is a son of Lillie McGreggor, the World's Fair champion.

The sweepstakes mares were headed by Princess Zenda, a two-year-old black of surprising finish for one of her age.

The "collection" of two stallions and three mares Mr. Clark brought into the ring to win final sweepstakes were a rich show—one we must go a long way to equal, if indeed we can find it anywhere in one stable.

FRENCH COACH.

F. W. Welchel, Des Moines, Iowa, tied the ribbons, and it is doubtful if any judge in this country has had the pleasure of passing on a gamier company; certainly it has not been done in the West. The awards went as follows:

Stallion, 4 years and over—First, Frank Iams, St. Paul, Neb.; second, E. M. Barton, Hinsdale, Ill.

Stallion, 3 years—First and second, McLaughlin Bros., Columbus, Ohio; third and fourth, Wm. McLaughlin, Columbus, Ohio.

Stallion, 2 years—First McLaughlin Bros.

Stallion colt—First and second E. M. Barton.

Mare, 4 years and over—First and third E. M. Barton, second Frank Iams.

Mare, 3 years—First Frank Iams.

Mare, 2 years—First and second E. M. Barton.

Mare, 1 year—First E. M. Barton.

Mare colt—First and second E. M. Barton.

Sweepstakes stallions—First and second McLaughlin Bros., third Frank Iams, fourth and fifth E. M. Barton.

Sweepstakes mares—First and fifth Frank Iams, second, third and fourth E. M. Barton.

Collection, two stallions and three mares, all 5 years or under—First E. M. Barton.

COTSWOLD SHEEP.

Prof. John A. Craig, of the Iowa Agricultural College, judged the mutton breeds.

Ram, 3 years or over—First and second Geo. Harding & Sons.

Ram, 2 years—First and second Geo. Harding & Sons, third R. Miller, Brougham, Ont.

Yearling ram—First and second Geo. Harding & Sons, third A. J. Watson.

Ram lamb—First and second A. J. Watson, third and fourth Geo. Harding & Sons.

Ewe, 3 years and over—First and third A. J. Watson, second Geo. Harding & Sons.

Ewe, 2 years—First Geo. Harding & Sons, second and third A. J. Watson.

Yearling ewe—First and second Geo. Harding & Sons, third and fourth A. J. Watson.

Ewe lamb—First and third A. J. Watson.

No More Scrofula

Not a Symptom of the Affliction Since Cured by Hood's.

"When our daughter was two years old she broke out all over her face and head with scrofula sores. Nothing that we did for her seemed to do any good. We became discouraged, but one day saw Hood's Sarsaparilla so highly recommended that we decided to try it. The first bottle helped her, and after taking six bottles her face was smooth and we have not seen any signs of scrofula returning." SILAS VERNOOY, West Park, New York. Get only Hood's because

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier.

Hood's Pills cure nausea, indigestion, biliousness, constipation.

second and fourth Geo. Harding & Sons. Ram and three ewes—First and second Geo. Harding & Sons. Pen of five ewes—First and second Geo. Harding & Sons. Pen of two rams and three ewes, bred by exhibitor—First and second, Geo. Harding & Sons. Sweepstakes ram, any age—First, second and third Geo. Harding & Sons, fourth A. J. Watson. Sweepstakes ewe, any age—First, second and fifth Geo. Harding & Sons, third, fourth and sixth A. J. Watson.

LINCOLNS.

The Lincoln class brought out two notable Canadian flocks, those of Gibson & Walker, Denfield, Ontario, and William Oliver, Avonbank, Ontario.

The judge gave the preference to the flock of Gibson & Walker. The only exception to this was awarding Mr. Oliver first on two-year-old ewe, a well-matured animal of great thickness of flesh.

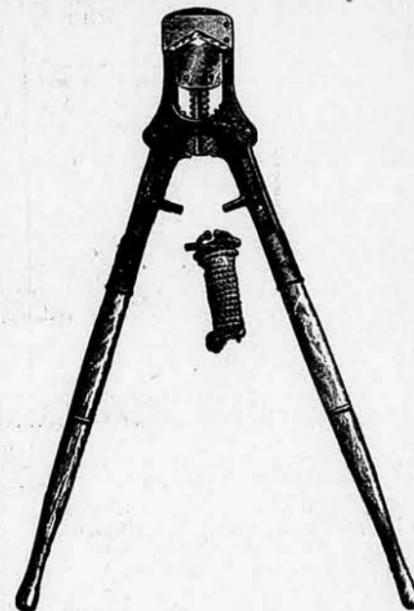
LEICESTERS.

Of the three flocks entered, only Robert Taylor, Abbott, Neb., appeared. Mr. Taylor's flock is a new one in the ring, and he filled only seven of the thirteen classes. But the stock was of exceptional quality, so that the judge awarded first and second prizes throughout.

(Continued on page 4.)

A Patent Infringed.

Of recent years the custom of dehorning cattle has been a general practice, and numerous devices have been presented and claimed the recognition of cattle men for that purpose. Among the original inventions of a practical nature is that of the Keystone Dehorning Clipper, patented and manufactured by A. C. Brosius, of Cochranville, Pa.



Mr. Brosius already has been compelled to proceed against and close up four different establishments that were infringing on his patent. He now has a case pending in the Federal court of Michigan and is bringing suit against parties in the State of Illinois. He claims to be the originator and patentee of the "V" shaped blade used in the Keystone. The advantages of this blade have been recognized by others manufacturing clippers and they are very desirous of evading the patent and adopting it. The objection has been to the ordinary clipper that it would crush the horns rather than cut them smoothly, as does the Keystone "V" shaped blades from four sides, with equal pressure on each. Mr. Brosius' patent is very firmly protected, particularly on this "V" shaped blade, and he intends to prosecute any who use infringement. If you lack further evidence along this line, write to Mr. Brosius at his address as given above.

When there are as few explosions of farm engine boilers as of locomotives and steamships it will be time to bet that the first are in competent hands.

Dairy Cattle at the Trans-Mississippi Exposition.

(Continued from page 3.)

JERSEY CATTLE.

There were seventy-four head of Jersey cattle shown, by the following: Michael Hilgert, St. Joseph, Mo., twenty head; Miller & Sibley, Franklin, Pa., nineteen head; J. E. Robbins, Greenburg, Ind., fifteen head; L. E. Williams, Greenwood, Iowa, eight head; E. E. Day, Weeping Water, Neb., five head; H. C. Young, Lincoln, Neb., three head; D. R. Button, Cottons, N. Y., three head; H. C. Glissman, Omaha, Neb., one head. Mr. H. C. Taylor, Oxfordville, Wis., was judge. It is to be said of this division of the live stock show that it was the scene of the very liveliest competition, the best herds East and West being in evidence. The following list shows where the prizes went:

Aged bulls—First to Miller & Sibley, Franklin, Pa.; second to Michael Hilgert, St. Joseph, Mo.; third to Miller & Sibley; fourth to J. E. Robbins, Jr., Greensburg, Ind.

Two-year-olds—First to E. E. Day, Weeping Water, Neb.

Yearlings—First to Miller & Sibley, second to Robbins, third to Hilgert, fourth to R. D. Button, Cottons, N. Y.

Calves—First to Robbins, second to Hilgert, third to Miller & Sibley, fourth to H. C. Young, Lincoln, Neb.

Aged cows—First to Robbins, second to Miller & Sibley, third to Hilgert, fourth to Robbins.

stakes for cow of any age. This is a notable record and should go far to satisfy Mr. Hilgert for some other well-deserved ribbons he did not get. E. E. Day won out in the two-year-old bull class with a finely-proportioned, mellow animal that looked fit to head any herd. Mr. Robbins' young herd, all under 2 years old, that won first, were as attractive a lot of youngsters as one will see. The battle royal was among these three great herds, and while the world-famed herd of Miller & Sibley got the most money, owing to taking the Jersey Cattle Club specials, the honors were very much divided up.

GUERNSEYS.

For this breed Col. W. M. Liggett, of Minnesota, placed the ribbons. Following is the list:

Aged bulls—First to Hill & Son, Rosedale, Wis., on Benjamin.

Two-year-olds—First to Hill & Son, on Sir Fantine.

Yearlings—First and second to Duke farm, Somerville, N. J., on Klondike and mate.

Calves—First and second to Duke farm. Champion bull—Benjamin; second, Duke's bull calf.

Aged cows—First and second to Hill & Son, on Madame Trixy and Suke of Rosedale; third to Duke's farm, on Legacy.

Two-year-olds—First to Duke's farm, on Stranford's Pearl; second to Hill & Son, on Julia M.; third to Duke's farm, on Dame Lefevre.

Yearlings—First to Hill & Son, on Madam Muriel; second and third to Duke's farm, on Cleveland's Ruby and Stranford's Autumn Leaf.

oughly good one, though composed of only two large herds.

HOLSTEIN-FRIESIANS.

The judging of this breed of the dairy cattle was done by Mr. W. J. Gillett, Rosedale, Wis. The prize list follows:

Aged bulls—First to W. B. Barney & Co., of Hampton, Iowa, on Chief of Maple Hill 4th; second to Iowa Agricultural College, on Sir Abbecker Mechthilde.

Two-year-olds—First to Barney & Co., on Jewel of Home Farm; second to Henry Stevens & Sons, on Inka De Kol's Count De Kol; third to John C. Doubt, University Place, Neb., on Gold Leaf 2d's Gerben Sir Henry.

Yearlings—First to Stevens & Son, on De Kol 2d's Butter Boy 3d; second to I. W. Chappell, Normal, Neb., on Vere's Sir Parthena.

Calves—First and second to Stevens & Son, on Manor De Kol Plum and Manor De Kol King; third to Barney & Co.

Champion bull—Jewel of Acme Farm, second to Chief of Maple Hill, third to Manor De Kol Plum.

Aged cows—First and second to Stevens & Son, on Aaggie Grace 2d's Pietertje and Helena Burke; third to Barney & Co., on Minnie Spaanz.

Two-year-olds—First to Stevens & Son, on Aquila Keys De Kol; second to Doubt, on Maud Z.; third to Stevens & Son, on Manor Beets De Kol.

Yearlings—First to Chappell, on Robertine's Tritomia 2d; second to Barney & Co., on Empress Josephine of Home Farm; third to Chappell, on Austral 3d's Parthena. Calves—First and second to Stevens &



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cattle. Barney & Co. have a rich young herd bull in Jewel of Home Farm. He won his sweepstakes laurels easily, and with the very good cows now in the herd should presently bring it up to the prize-winning quality, even in so fast a class as it encountered at Omaha.

BROWN SWISS.

The fine show made at Omaha is the first really large show of this breed made west of the Missouri. There were three great herds shown, those of F. A. Squires & Son, Bloomer City, Minn.; E. M. Barton, Hingdale, Ill.; and Nixen & Laughlin, Auburn, Neb. The ribbons were awarded by T. H.



A GROUP OF SHORT-HORNS, PROPERTY OF B. W. QOWDY, GARNETT, KAS.

Two-year-olds—First to Miller & Sibley, second to Hilgert, third to Robbins, fourth to Miller & Sibley.

Yearling—First and second to Hilgert, third and fourth to Miller & Sibley.

Calves—First to Robbins, second to H. C. Young, third to Hilgert, fourth to Miller & Sibley.

Four, the get of one bull—First to Miller & Sibley, second to Robbins.

Four, produce of one cow—First to Miller & Sibley, second to Robbins.

Young herd—First to Robbins, second to Miller & Sibley.

Graded herd—First to Miller & Sibley, second to Hilgert.

Mr. Robbins' cow, which won first in the class for aged cows, won along with her blue ribbon the A. J. C. C. prize of \$100 for the best cow of any age. This winner, Jersey Venture, is an imported cow now coming 5 years old. She is light fawn color, deep bodied, fine bone, perfect udder and teats, and not a pound of surplus fat. She is a perfect type of an economical butter-maker. Her bull calf, a dark fawn youngster of good masculine type, was an easy first in his class against the field. Miller & Sibley won first with four animals the get of one sire, with two full sisters, Parisine 3d and 4th and Allie of Glen Rough, as the strong points of the entry. Parisine 3d and 4th are a pair of beauties, but showing rather more flesh than one likes on a Jersey. They are silver gray cows, Parisine 3d being the darker color, with as fine an udder and veins as one will care to see. Allie is a two-year-old out of 100 Per Cent, a heifer likely to become an outstanding winner in the show ring. Miller & Sibley won the A. J. C. C. specials on bull and four cows over 2 years, for bull and four of his progeny, for best bull 3 years and over, and for best bull under 3 years. These make an aggregate of \$450. Mr. Hilgert's heifer, Lady G. of Menloe, that won first in yearling class, won second in sweep-

Calves—First and second to Hill & Son, on May Fantine and Sukine; third to Duke's farm, on Queen of Raritan.

Champion cow—Madame Trixy; second, Suke of Rosedale.

Graded herd—First to Hill & Son, second to Duke's farm.

Young herd—First to Hill & Son, second to Duke's farm.

Produce of cow (two)—First to Hill & Son.

Get of bull (four)—First to Hill & Son, second to Duke's farm.

Hill's Madame Trixy, which won in her class and again in sweepstakes for cow of any age, is a small red and white six-year-old animal of the highest dairy type. She has the wedge shape, big bread basket and fine bone, which characterize high nervous organization. What is more to the point, she has a butter record at 3 years old of 16 pounds 12 ounces in one week, and 482 pounds in the year. Her sire, Old Benjamin, has been a first-prize winner at Wisconsin since 1892. This year he began his winning at Minnesota State fair and is still first in the ring at Omaha. He sired all of Hill's prize-winning cows and calves, and they are a grand lot. Old Benjamin had a choice location in a front stall, and his big bread basket, mild eye, and thin back made him "the observed of all observers." The Duke farm Guernseys were a fine looking lot of a rather beefy type, but especially strong in young stock. Stranford's Pearl, which won first in two-year-olds, is a fine heifer. The herd bull was not shown in the ring, but his sons took first and second in yearling class, and his get won in calves. He is a splendid-looking animal in the stall, though evidencing a pronounced dislike to strangers—quite the reverse of Old Benjamin, his rival, who was on good terms with everybody. On the whole, the Guernsey class made many friends among the lovers of the special-purpose cow, and the show was a thor-

son, on Inka De Kol's Hengerveld and Manor De Kol's Clothilde; third to Barney & Co., on Empress Gerben of Home Farm.

Champion cow—Aaggie Grace 2d's Pietertje, second Helena Burke, third Aquila Keys De Kol.

Graded herd—First to Stevens & Son, second to Barney & Co, third to Doubt.

Young herd—First to Chappell, second to Stevens & Son, third to Barney.

Produce of cow (two)—First to Stevens & Son, second to Chappell, third to Barney & Co.

Get of bull (four)—First to Stevens & Son, second to Chappell, third to Barney.

The Henry Stevens herd of Holsteins is one of the best ever seen in the West. The two cows, Aaggie Grace 2d's Pietertje and Helena Burke, which won first and second in sweepstakes, are a pair of cows to make any herd notable. They are small for mature Holstein-Friesians, but with all the points of great dairy cows. The former has a record of 100 pounds of milk average for seven days, and 23 pounds 8 ounces of butter in the week. The latter has a record of 98 pounds 14 ounces milk average for seven days, and 25½ pounds of butter. The test was made by Prof. Wing, of Cornell (N. Y.) Agricultural College. These cows are in the ten-day butter contest at the Exposition, and will doubtless make new records. Mr. Chappell's Robertine's Tritomia 2d, which won first in yearling class, is a beautiful youngster by Parthena's Sir Henry. Mr. Chappell's herd bull. This noted sire got all the animals which won Chappell first on young herd. Two other promising yearlings from this herd are in the butter contest. These are Tritomia's Artis Netherland and Austral 3d's Parthena. The latter is a beautiful heifer only 22 months old. She is making a yearling record to speak of. Mr. John C. Doubt has also a very fine cow in the test. This is Sharon Dora from Dora Midnight, the cow which in ten years has given Mr. Doubt eighty-three head of pure-bred Holstein

Hinman, Hanover, Wis., and were distributed as follows:

On bulls—Three years and over, first Barton, second Squires, third Nixen & Laughlin. Two years, first Squires, second Barton, third Nixen & Laughlin. One year, first Nixen & Laughlin, second Barton. Bull calf, first Squires, second and third Barton. Sweepstakes, first Barton, second Squires.

On cows—Three years and over, first Barton, second Squires, third Nixen & Laughlin. Two years, first Squires, second and third Barton. One year, first Squires, second Barton, third Nixen & Laughlin. Heifer calf, first and third Barton, second Squires. Sweepstakes cow, first Barton, second and third Squires.

On herds—Graded herd of five head, first Barton, second Squires, third Nixen & Laughlin. Young herd of five head under 2 years old, first Squires, second and third Barton. Four head, get of one bull, first Squires, second and third Barton. Two head, get of one bull, first Squires, second and third Barton. Two head, produce of one cow, first Squires, second and third Barton.

The general impression made by the Brown Swiss herds was very good. They are large, fleshy animals and will go into the general-purpose sweepstakes ring with a fair chance of winning. Squires' first prize two-year-old heifer, which won first in her class, is a good type of Brown Swiss. This is a fine, fleshy cow, with soft ash-brown coat, mealy muzzle, drooping horns and a fine-formed udder, which milks out remarkably clean. Her sire, Bonafide, which won second in aged bull class, is a smooth animal of 2,100 pounds weight in moderate flesh. The bulls are masculine, heavy-boned animals, but with more round and less loin development than we have on the best beef type. The ash-brown color of the Swiss breed is unfamiliar and rather unpleasant to American eyes, trained to expect red, roan and fawn in cattle colors. But withal, the



Brown Swiss are winning their way to the front of general-purpose cattle stock. GRAND SWEEPSTAKES—BEEF BREEDS.

Before the time had arrived for driving the beef breeds into the ring for grand sweepstakes prizes, pressure was brought to bear in favor of a change of committee on judging, the contention being that the rank and file of breeders were not getting fair play, that many awards were being placed without due regard to the character of other contestants than the ones so favored.

Results: Aged bulls—First to H. F. Brown, Short-horn; second to A. C. Binnie, Angus; third to Chas. Escher & Son, Angus. Two-year-olds—First to H. F. Brown. Yearlings—First to S. R. Pierce, Angus; second to W. A. McHenry, Angus; third to Edwin Paul, Galloway.

Our Illustration.

Our illustration this week represents a quartet from the herd of B. W. Gowdy, of Garnett, Kas. The bull is Kirklevington Duke of Shannon Hill 126104, bred by ex-Gov. Gluck, of Atchison, and sired by Winsome Duke 11th. This young bull possesses rare style, is very smooth and even, partaking much of the Bates character, and is naturally a little off the ground, but in spite of his name is a useful bull and takes his place with Baron Flower 114352 at the head of the herd.

The purchase of the Chambers Short-horns by Mr. Gowdy is of interest to breeders of beef cattle generally and Short-horn men in particular. This stock was brought originally from Iowa, and is in part and descends from the noted Elbert & Fall herd.

Mr. Gowdy's combined herd numbers ninety odd head, about sixty of which are breeding cows. A large drop of calves is expected during the next few months. The herd contains the best blood lines of the Bates and Cruickshank breeding, with the former predominating. Of the famous Rose of Sharon there are fifteen representatives. Nine of the Constance family, extra good ones—descended from Constance of Hilldale, a roan matron of the Elbert & Fall stock. She was sired by the 60th Duke of Oxford 55734, and traces to Imp. Constance by Bridegroom (11203). Her grandsire, 22d Duke of Airdrie 16593, was half brother to the 14th Duke of Thorndale, that sold for \$17,900.

Mr. Gowdy is an enthusiastic breeder and hopes to build up a herd of high character. In this he is warmly supported by Mrs. Gowdy, who is no less enthusiastic and is a diligent student of Short-horn pedigrees, her knowledge of which enables her to render valuable assistance.

Realizing the merit of the Cruickshank cross to build up feeding quality and early maturity, Mr. Gowdy recently purchased the Cruickshank bull Baron Flower 114352, of C. E. Leonard, of Bell Air, Mo., to head the herd. Baron Flower is a red, sired by Baron Lavender 34 7884 out of Sunflower (Vol. 37, p. 571) by Vengarth 84009, second dam Imp. Sunbeam (Vol. 35, p. 341) by Royal Violet 58634, third dam Songstress by Lord Lancaster. Though not seen by our representative, he is described as "low down, blocky and of the feeder type."

Mr. Gowdy is offering for sale nine bulls of serviceable age that are choice. One, a Constance, will be a good investment for any breeder who is looking for breeding and individual quality combined. He is not only a good one, but an extra good one. A two-year-old, pure Cruickshank, by Valley Champion, is being used to some extent

in the herd and is also offered for sale. The best of shipping facilities are at hand on the A. T. & S. F. and two branches of the Missouri Pacific railroads.

Gossip About Stock.

Breeders and farmers who want to improve the quality of their herds should not miss the great sale of Poland-Chinas by Kirkpatrick & Son. This will be the last chance to buy pigs sired by the noted Hadley Jr. There will be fall sows and boars, spring gilts and boars, sows open and sows bred, show stuff for your next fall exhibitions.

All trains stop at Connor for Kirkpatrick & Son's sale on day of sale and the day before. The sale will be held at their farm, adjoining the station, under a large sale tent. Everybody will be made comfortable, no matter what the weather may be. If you have not received catalogue, send for one, and it will be forwarded to you by return mail. But if too late to get one, don't wait for that. There will be plenty of catalogues at the sale tent.

M. H. Alberty, of Cherokee, Kas., writes that he is receiving many second orders from purchasers who have received from him Duroc-Jersey swine during the past year; and recently he shipped to Ogden, Utah, the third male to party who had previously bought two others of him. Mr. Alberty is offering bargains in first-class thoroughbred Duroc-Jerseys, and will be pleased to answer any questions about them that Kansas Farmer readers may care to ask.

Mr. C. H. Manwaring, of the firm of Manwaring Brothers, of Lawrence, Kas., returned last week from Omaha, where he had been in charge of the swine exhibit belonging to his farm. He was much pleased with his success at the great exposition. He expresses great satisfaction in the fact that one of the prize-winners at Omaha is the sire of the fine boar the Manwarings are offering for sale. In order to introduce their stock to breeders and farmers, they offer to give special values to all buyers who purchase before January 1. Write them for description of their stock.

Omaha Show Herd at Public Sale.—It is not often the public gets a chance to make their own prices on a full show herd of Poland-Chinas, and equally as rare to have them sired by such a noted boar as Hadley Jr., out of sows by Chief Tecumseh 2d, Hadley 2d, Chief I Know, Hidestretcher, Kiever's Model, Look Me Over and Chief I Am. You can have this opportunity by attending the sale of Kirkpatrick & Son, at Riverview farm, adjoining the town of Connor, Wyandotte county, Kansas, just twelve miles north of Kansas City, on the Missouri Pacific railway, on Wednesday, November 2, next. All trains stop on sale day and the day before. If you have any desire to attend the great sale of this year, send for a catalogue. It is, as usual, unique and refreshing in style.

November 10, 1898, is the date and Marion, Marion county, Kansas, is the place where J. R. Willson will hold his auction sale of thoroughbred Poland-China swine. This will be Mr. Willson's first venture in holding a public sale, though he has been in the business of breeding thoroughbred swine for several years. Among his notable offerings will be Tanner 19212, a grandson of the famous Hidestretcher, the old prize-winner; his sire won sweepstakes at the South Enid fair, in September of this year. Corwin Sensation, whose picture was printed in Kansas Farmer during past year, will be sold at Mr. Willson's sale. Among the other fine animals at the auction will be Darkness 1st, Dolly Medium and Moss Wilkes Maid, the latter a granddaughter of Chief Tecumseh 2d. Write J. R. Willson, Marion, Kas., for his catalogue and be sure to attend his sale. Mr. Willson is a fair business man and will treat all his customers squarely.

To all acquainted with the Hereford in this country, Messrs. Gudgell & Simpson, of Independence, Mo., and Mr. James A. Funkhouser, of Plattsburg, Clinton county, Missouri, need no introduction, as their work in the American Hereford history dates back to the early 80's and follows on down to the present time. The owners of the Independence herd made a very successful showing at the World's Fair in 1893, while Mr. Funkhouser's show herd has been one of the strongest at the State fairs since 1890. Their combined late public sales, October 23, 1896, and March 16, 1898, were among the most successful held in this country in recent years. For the coming sale Mr. Funkhouser has catalogued forty head—fifteen bulls and twenty-five cows and heifers. The bulls are of serviceable age and several of the cows will have calves at foot. His sale catalogue gives complete details concerning the breeding, etc., which will be sent free by ask-

ing for a copy. The draft of sixty head catalogued by Messrs. Gudgell & Simpson consists of thirty-two bulls and twenty-eight cows and heifers, making a total for the two day's sale, November 15 and 16, forty-seven bulls and fifty-three cows and heifers. Here, then, are 100 head selected out of the combined herds of about 700 head that are noteworthy representatives of the Hereford breed and good enough to go anywhere.

Howey's Sale.

The veteran breeder, V. B. Howey, of Topeka, announces a public sale of seventy head of thoroughbred hogs, to take place at his farm, five miles southeast of Topeka, on Saturday, November 12. The offering will consist of Poland-Chinas and Berkshires. Of these breeds Mr. Howey has, at other sales, produced as fine animals, both in breeding and in individuality, as those that have brought fancy prices at some of the great sales. He will offer at this time combinations of blood which under his skill and care have produced animals of the show ring pattern. To the breeder who desires a head for his herd or a sow that will produce value several times greater than her cost, and to the farmer who wants to breed his hogs into better paying types, Mr. Howey's sale furnishes a great opportunity. For extended pedigrees and descriptions, write to Mr. Howey for a catalogue.

Rose Creek Sale.

Poland-China breeders in the northern and northwestern counties of Kansas, served by the Union Pacific and Rock Island railroads, can attend the public sale of Poland-Chinas at Rose Creek farm, near Belleville, without much expense or loss of time and will find everything first-class. The herd is a large one—between 200 and 250 head—and is second to none in breeding or individual excellence. The animals catalogued for this sale were sired by Tecumseh the Great 16900 by Chief Tecumseh 2d, Rosewood Medium 16453 by Woodburn Medium, and Domino 16734 (a State fair winner) by What's Wanted Jr. The dams of the pigs were sired by Chief Tecumseh 2d, Guy Wilkes 2d, Van Dee, Kodak and other noted boars. There are nineteen yearling sows, five yearling boars, twenty-four early spring gilts and eighteen early spring boars—nothing under eight months or over fourteen months old. The offering is unusually uniform in age and size, the spring pigs being hardly distinguishable from yearlings. The owner of Rose Creek farm has paid three figures for more than one animal, but he has no use for boomers or their methods and does not expect a high range of prices at this sale. The high character of the offering ought to commend it to breeders in search of fashionable blood in useful form at reasonable prices. Visiting breeders will be at no expense except railroad fare.

November Notes.

Be ready for cold weather. Keep stock out of cold rains. Increase the feed of the stock. Fall plowing may be done now. Sell stock as fast as fully fattened. It wastes feed to feed upon the ground. As the weather gets colder feed more grain. Get everything in as good shape as possible now so that when severe cold weather

Any guarantee

you want—even this we will do: We will pay \$100 reward for any case of colic, horse ail, curbs, splints, knotted cords, or similar trouble, that



Tuttle's Elixir

will not cure. It is the veterinary wonder of the age, and every stable should have a bottle always on hand. Locates lameness when applied by remaining moist on the part affected.

DR. S. A. TUTTLE, 27 Beverly Street, Boston, Mass.



A woman asks this question! How frequently thought and study she devotes to it! It is natural. A woman hates to think that she is growing day by day less charming and attractive and youthful to her husband's eyes than in the days of courtship.

A woman may always retain her charms and the vivacity and freshness of youth if she will take the proper care of her health. A tremendous percentage of ill-health in women is due to weakness and disease of the distinctly feminine organism. Dr. Pierce's Favorite Prescription is an unfailing remedy for all disorders of this nature. It allays inflammation, heals ulceration, stops debilitating drains and soothes and tones the nerves. It preserves in a woman all the charm of healthy youth. Thousands of women have testified to its marvelous merits.

"Favorite Prescription" is sold by all respectable dealers in medicines. Deal only where you are honestly treated. Any store-keeper who tries to give you a substitute for what you demand is not treating you honestly and you should take your trade elsewhere.

"For nine years I have suffered with falling of internal organs," writes Mrs. Mary Williams, of Raleigh, Wake Co., N. C. (Box 196). "I was troubled with bearing down pains. I had indigestion and female weakness and nervousness. I could not sleep at night. I was constipated and had urinal trouble. The doctor here said that no medicine would reach my disease. Dr. Pierce's Favorite Prescription, 'Golden Medical Discovery' and 'Pleasant Pellets' have cured me."

An every-day necessity in the home. A good home medical work. Send 21 one-cent stamps, to cover mailing only, to the World's Dispensary Medical Association, Buffalo, N. Y., for a paper-covered copy of Dr. Pierce's Common Sense Medical Adviser. Cloth binding 31 stamps.

sets in there will be no necessity for much exposure. Trees may be set out if ground is not frozen.

Apply mulch as soon as the ground freezes.

Using plenty of bedding will increase the manure heap.

Winter no more stock than can be comfortably sheltered.

Let stock run out every day that the weather will permit.

Feed out the fodder and hay that is stacked outside before feeding that which is stored under shelter.

Corn may be made the principal ration for hogs in winter, the objection comes to making it the only food.

By providing stock with warm, dry quarters much less grain will be needed to keep the stock in a good, thrifty condition and in this way the cost will be lessened.

Eldon, Mo. N. J. SHEPHERD.

Use Dr. Bull's Cough Syrup for your cough or cold on chest or lungs. It is truly a wonderful medicine. No other remedy has made so many remarkable cures. Price 25 cents.

B. & B.

New Catalogue Ready

Two hundred and fifty pages—fine engravings of ladies' and misses' new suits, capes, jackets, furs, girls' cloaks—illustrations and prices that show what large assortments in sixty-four different departments—shows how you can buy your Dry Goods here by mail and save money. We'll send you a copy, free, post-paid, soon as you send your name and address for it.

Ladies' Cloth, or Cloth Suitings, all wool, plain and mixtures, variety of colors, a line of merit:

32-inch..... 20c yd. | 50-inch..... 35c yd. 36-inch..... 25c, 30c yd. | 52-inch..... 40c, 50c yd. 56-inch mixtures only 50c yard.

Fine Dress Goods, plain colors, novelties and black, 50c, 65c, 75c, 85c, \$1.00 yard.

Plain and Fancy Silks, 50c yard.

Handsome Broche Silks, 65c yard.

Superb stripe, plaid and plain Taffetas, and beautiful evening Silks, 75c, \$1.00 yard.

Largest assortment of choice new goods we've yet shown—such as is surpassed few places, if any, in America.

SAMPLES COST YOU NOTHING.

BOGGS & BUHL, Department G. G. Allegheny, Pa.

The Home Circle.

IN ARCADY.

Not a movement, not a murmur in the wind;
Not a bird note, not a whisper in the air;
Not a fancy, not a feeling in the mind,
But the one thought, "It is very, very fair."

And the perfume, what a perfume, of the pine!
And the azure, what an azure, there below,
Where the waters in a long and creamy line
Come in wavelets! Ah, the ocean has its snow.

Oh, the beauty of the downward-dropping rills,
As they fall or seem to fall, without a sound!
The enchantment, old enchantment of the hills,
With the mystery of silence all around!

As if spirits of the mountain and the deep
Fancy's loveliest creations, still were there,
Who might wake up any moment from their sleep,
Nymph and Nalad, beauty's semblance, yet more fair.

Something dearer than the stillness of the wood;
Something livelier than the radiance of the green;
Who might teach us in a voice we understood,
That a heart is there in Nature, though unseen;

That a mother's heart is beating in her grace;
She hath wisdom, she is wonderfully wise;
There is purpose in each wrinkle of her cheek;
Love is lurking in the glances of her eyes.

And the wildness has departed from her life;
Peace is shining on her battlefields of old;
Here the mountain tells of earthquake and of strife;
There the valley has its cornfield and its gold.

So we lingered, till the landscape seemed to blend
With the golden haze of sunset far away;
And we knew not the beginning from the end;
All was passing with the passing of the day.

All was passing, yet it cometh oft again
In the evening, like a well-beloved guest,
That remembrance of a beauty without stain,
Of a world just for a moment at its best.

Not a movement, not a murmur in the wind!
Not a bird note, not a whisper in the air!
Not engraven as a picture on the mind
Still I see it. It was very, very fair.
—London Spectator.

A King's Ingratitude.

Gouverneur Morris, at one time American minister to France, with the generosity always shown by our people toward the unfortunate, upon learning of the forlorn condition of the Duke of Orleans (afterwards Louis Philippe, King of the French), offered his assistance to secure his safe conduct to Philadelphia. The Orleans family, at that time, were proscribed from France, and, in consequence, were unwelcome visitors to any country of continental Europe, being compelled to live in disguise. Morris not only invited the Duke to accompany him on the voyage from Hamburg to Philadelphia, but at the same time transferred to the Prince an order for £100 to defray his expenses from Bale to Hamburg. The timely assistance was accepted with effusive gratitude by the royal Frenchman. When he reached Hamburg he found that Mr. Morris had been intrusted by the President of the United States with a diplomatic mission in Germany, and therefore their departure was delayed. At length the Duke of Orleans sailed for Philadelphia on the America, where arrangements had been made for his brothers to join him. The three Princes were received with great cordiality by Washington, then in the last year of his Presidency. They were at his farewell address to Congress and witnessed the inauguration of John Adams. An invitation to spend several days at Mt. Vernon was eagerly accepted. Gen. Washington himself arranged the itinerary of their proposed trip through the country. Every substantial assistance was given the three Princes, whose mother and sister were wandering from place to place in Europe, always under proscription. After traveling extensively, north and west, they determined to go to Cuba, having learned that their mother was living in Spain, where the Duchess of Orleans vainly sought permission for her children to join her. No sooner had they landed in Cuba than they were confronted with the order of the Spanish King refusing them permission to remain in Havana, or "any other part of the Spanish dominions in the new world." In a letter written subsequently to Morris, the Duke of Orleans expressed lively sentiments of affection and gratitude toward the United States. But when he came to the throne as "King of the French," he treated the claims of

this country with the most contemptuous unconcern until President Jackson ordered our minister to leave France, and called upon Congress to give Louis Philippe a lesson by seizing French ships and cargoes. Then, and only then, were our claims settled.—Washington Post.

The Ozar at Home.

The Russian court military and ministerial dress is costly and rich in the extreme, and this richness is carried out even to the liveries of the servants, their scarlet coats being literally ablaze with gold, says a writer in the English Illustrated Magazine. It is a fact that no court in the world presents such a picturesque and magnificent appearance as does that of Russia. At any function, therefore, the show is brilliant, but more especially perhaps, at a ball, when the rich evening toilets of the ladies, enhanced by jewels of priceless worth, add much to the already brilliant effect. The Russian dances are of a very stately description, and both the Emperor and Empress take part in them very thoroughly. The aspect of the armorial hall, where the supper is often laid, is grand beyond all description. This meal is not partaken of standing, as at the majority of the courts, but the guests sit down at the long row of tables. A procession is formed, which is headed by his Imperial Majesty and the most distinguished lady present, and the room is then entered in the order of precedence. Of course, an immense quantity of plate is displayed. This and the china that is also used are noted throughout Europe for their richness and beauty. There is one service alone, capable of dining 500 persons, that is composed entirely of the purest silver overlaid with gold. Added to all this the use of a variety of the choicest fruits and the rarest flowers, among which orchids figure largely, makes the scene one of the most gorgeous magnificence. During the evening a state progress through the suite of rooms is made by the imperial personages and the chief officers of the household, the guests forming up into a long avenue on either side. One special feature is that two or three of the largest halls in the palace are, on the occasion of a ball, fitted up as a huge conservatory, palms, exotics, ferns, banks of flowers, and even fruit trees being transplanted thither with the most marvelous effect. Electric light is carried throughout, and glows down from myriads of globes of a variety of colors. In this veritable fairyland hundreds of seats are placed for the convenience of the guests between dances. It would be utterly impossible to mention the rare works of art to be seen in this palace, comprising paintings, statuary, collections of jewels, antiquities and curios of every description. Everything is of oriental magnificence, and to see it all the eye must weary of the continuous dazzle.

Deserved the Decorations.

To the social ambition of burglars there is no limit. They bicycle to a suburban crib which they have arranged to crack, drive dogcarts and wear gold-rimmed spectacles. Another phase of their desire for higher recognition among the community is greatly exercising the mind of a respectable resident of Putney, who returned after a brief holiday at the beginning of the week to find that in his absence his house had been visited by at least one thief, who appropriated a quantity of plate, a dress suit, two Greek decorations for merit of which the householder was the proud possessor, and a ticket for a public dinner to an official of a golf club who is leaving England for Australia.

This function was fixed for Tuesday evening. The excitement of the burglary drove all recollection of the banquet from his head, and it was only when some friends mentioned how charming his representative was at the banquet that he remembered the disappearance of the ticket, which was marked, "One guinea; wine included." Subsequent investigation showed that the burglar had not only appropriated the admission card, but actually wore the gentleman's Greek decorations at the dinner, where he represented himself to be the ticket holder's cousin, who was on his holidays, and made himself so popular among the company with stories of his exploits in the late Greek war that several of them invited him to visit their houses.

And now the real owner of the decorations is trying to find out all these gentlemen and warn them of the danger they run should the false guest honor them with his presence, because it would merely be the preliminary of another burglary. He is not quite sure whether he has succeeded in tracing all who were attracted by the house-breaker's bonhomie.—London Telegraph.

GOLD DUST

THE BEST WASHING POWDER

Famous Doll Mothers.

It will probably interest a great many little girls who love large and flourishing doll families to know that in their childhood nearly all the most gifted and famous women were the devoted mothers of very tenderly cherished wax, kid or rag dolls.

When Charlotte and Emily Bronte, two of the most famous English novelists, were little women, they lived a hard, desolate life on the bleak Yorkshire moors, and found the chief pleasure of their rather sad young lives in playing with a set of very ugly wooden dolls.

Charlotte Bronte's favorite playfellow was called the Duke of Wellington, and the gallant duke had armies of tin soldiers against Emily's Napoleon, or stood up to listen while Charlotte read to him long poems she had composed in his honor.

Besides the battles these children built a tiny stage in their nursery, and wrote little plays for the dolls to act, and composed thrilling romances, in which one doll rescued another from the pirates or Turks, or went tiger shooting in a jungle of shawls in one end of the play-room.

The Bronte dolls had very exciting lives, indeed, but their end was not so sad as that of Jane Welsh Carlyle's doll.

This clever lady loved but one doll. When at last in her studies the remarkable little girl began to translate the first book of Virgil, she decided it was time to give up doll games. Accordingly, she piled on its bed all the doll's clothes, added several lead pencils, a few sticks of cinnamon, grated over this some nutmeg, and emptied over the funeral pyre a vial of perfume.

Finally, with many tears, she pretended that poor dolly had stabbed herself, and, laying the unhappy sawdust corpse on the bed, set fire to it. When it began to burn the doll poor little Jane Welsh's feelings gave way. She snatched her darling from the flames, but too late.

George Eliot possessed several dolls in her childhood, but gave them her attention or affection only by fits and starts. In "The Mill on the Floss" she writes of a little girl, Maggie Tulliver, who kept in the garret a hideous wooden doll, lacking a head, one arm and a leg. When poor Maggie was in trouble, she went to the garret to weep and drive nails into the forlorn body of this wretched plaything called Fetish. Every nail in Fetish's body represented the fault for which Maggie mourned or suffered punishment.

When grown to be a famous woman George Eliot confessed that in her youthful days she had owned and maltreated a doll called Fetish, and Maggie's behavior was the true story of her own childish life.

The very tenderest doll mammas were Jean Ingelow and Mrs. Ritchie, William M. Thackeray's daughter.

Miss Ingelow possessed a special waxen favorite that she named Amelia. Amelia went everywhere her mother did; she was introduced to all the agreeable people who came to the Ingelow house; her dresses were always made from a piece of whatever cloth her mother wore, and when games or merry times were enjoyed in the nursery, Amelia was thoughtfully placed where she could take in the fun with the rest of the young folks.

An ill-advised bath on a hot day was so hopelessly destructive to Amelia's painted beauty and sawdust constitution that the Ingelow family pronounced her quite dead. Her funeral was well attended, and for many months Jean sorrowed for Amelia and refused ever to take another doll to her heart.

All dolls, fine or shabby, large or small, black or white, who came little Annie Thackeray's way shared the ten-

der affection of her overflowing heart. When a very little girl she believed dolls were quite as much alive as real babies, and if they lost their heads or arms the missing member would grow again.

When, at 14 years of age, George Sand heard some one laugh at the idea of so big a girl still playing with dolls, like Mrs. Carlyle, she concluded to give them up. With tears and hearty laughs she bade every one of them adieu and locked them into a garret closet.

At first the separation from her adored playfellows was almost more than she could bear, and every day she would sit for an hour or two, sad and tearful, outside the closet door, sometimes whispering words of comfort through the keyhole to the poor exiles, but she never broke her vow to have done with dolls, and by and by they were forgotten.

Surely, it is hardly to be wondered at that Florence Nightingale's dolls all enjoyed very indifferent health. Time and time again fell disease stalked through the nursery and laid every doll so low that their lives were quite despaired of, but the little girl, who was to grow up to be such a ministering angel to thousands in real suffering, always pulled her babies through their worst attacks.—Boston Globe.

Some Irish Sayings.

A very quaint reason, says a writer in the London Telegraph, was advanced by a domestic servant for thinking that the place she was in was in every way desirable. "Are yez in a good place, Mary?" asked one of her friends. "Oh, a mighty foine place, intirely," she replied. "Shure, me mistress is so rich that all her flannel petticoats is made of silk!" "Look at that, now!" exclaimed the other in amazement. Here is a bull from the nursery: "That's a terrible noise in the nursery, Molly," said the mistress. "What's the matter? Can't you keep the baby quiet?" "Shure, ma'am," replied Molly, "I can't keep him quiet unless I let him make a noise."

Mothers! Mothers!! Mothers!!!

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The Young Folks.

A SONG OF LONG AGO.

A song of Long Ago:
Sing it lightly—sing it low—
Sing it softly—like the lisp of the lips
We used to know
When our baby laughter spilled
From the glad hearts ever filled
With music blithe as robin ever trilled!

Let the fragrant summer breeze,
And the leaves of locust trees,
And the apple-buds and blossoms, and the
wings of honey-bees,
All palpitate with glee,
Till the happy harmony
Brings back each childish joy to you and
me.

Let the eyes of fancy turn
Where the tumbled pippins burn
Like embers in the orchard's lap of tan-
gled grass and fern—
There let the old path wind
In and out, and on behind
The cider-press that chuckles as we grind.

Blend in the song the moan
Of the dove that grieves alone,
And the wild whir of the locust, and the
bumble's drowsy drone;
And the low of cows that call
Through the pasture-bars when all
The landscape fades away at evenfall.

Then, far away and clear,
Through the dusky atmosphere,
Let the wailing of the killdeer be the only
sound we hear;
O sad and sweet and low,
As the memory may know
Is the glad-pathetic song of Long Ago!
—James Whitcomb Riley.

Written for Kansas Farmer.

YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 44.

HALLE.

On the morning of June 27, after our second night in Weimar, we started by train at 8 o'clock for a three-hour ride northward, to the city of Halle, on the river Saale. If one had plenty of time to spare, a full month would be none too long for visiting all the interesting places from Heidelberg to Halle; but we devoted only four days to the trip.

Halle is a university city, the same as Bonn-on-the-Rhine and Heidelberg on the Neckar, though it is a much larger place than the other two, containing nearly 120,000 inhabitants.

We arrived at 11 o'clock, and immediately began our tour of the city by bicycle, as we had done in every place visited. We first proceeded to inspect the ancient churches, and in turn we called at St. Mary's, St. Moritz's, St. Ulrich's, and the cathedral, some of which were built as long ago as 1550. We viewed the Rothe Thurm (Red Tower), statue of Handel, and also the fine bronze statue of Francke, the renowned philanthropist and theologian, who died in Halle in 1727. We then rode in the suburbs, near the bank of the Saale, to see the ruins of the famous Giebichenstein castle, also called the Mauritzburg ruin. I have told of so many ruined castles, that I will only say of this that the northern wing has been "restored" and is used for the University of Halle.

TEUSCHENTHAL.

But we were tired of castles, ruins, churches, statues and dead folks. We did not want any more of them, even if they were given away.

In Berlin I had become acquainted with Fraulein Marguerite Wentzel. Her home is twenty miles from Halle, and she had invited our whole party to visit her at Castle Teutschenthal, whenever we should arrive at the last named place. I had sent her word of our coming, and at noon we left our wheels at the depot and took the cars for the little country town of Teutschenthal. We free-born Americans had not enjoyed visits in modern castles to a very great extent, and we had looked forward to this pleasure with considerable eagerness. Herr Wentzel, Marguerite's father, is the largest land owner in all northern Germany, and he has the title of "Amtsrath," though I do not know what that means. When a person in Germany owns an estate (called "gut," pronounced "goot") he is considered high in the grade of aristocracy. Herr Wentzel has not only one estate, but he is the happy owner of five, and they have belonged to his forefathers since the times of the Emperor Wenceslaus (also called Wenzel), from whom he claims descent. All this I learned from my friend during the visit.

We were met at the depot by my friend, her brother and sister, and were taken to the carriage which was to convey us to Castle Teutschenthal. The carriage was a large affair and appeared quite grand, with coat of arms on the doors and Herr Wentzel's initials, "C. W.," scattered around on every available place on vehicle and harness. The footman and coachman were in green livery with big brass buttons. The people at

the station and those we met along the road were very respectful to the great Herr Wentzel's "turnout" and bowed most obsequiously to us all. The little village was soon left behind us, and as we reached the top of a hill the towers of the castle appeared and soon we were at the huge gate in the high wall which entirely surrounds the grounds of the "schloss." A portier was on hand to unlock the gates and bowed very submissively as we rode through. The schloss is very large, built of stone, of course, and has many turrets and towers. We alighted under a large portico and were ushered into the hall, where we found the rest of the family gathered to give us welcome greetings. We were then escorted up the big stairway to our rooms, where we washed the dust of travel from our faces and hands, and were ready for the dinner awaiting us.

The hall and stairway is adorned with numerous trophies of the hunt—stag's heads, guns, rifles, birds and many feathered ornaments.

When we assembled in the big dining-room we were introduced to several other friends of the family, who were there for a visit. The dining-room is just what one would expect in a big castle. The ceilings are high and ornamented in carved wood. The large bow window overlooked the "Cavalierhaus" and others opened out on the beautiful flower gardens.

The long table was set in the center of the room, and at the head sat the guest of honor—an aristocratic-looking old lady with much lace and many diamonds. On either side of her sat the host and hostess and the remainder of the family and guests scattered somewhat promiscuously. Our Kansas party created considerable consternation because they all refused wine. It seemed inconceivable to the rest that one could eat a dinner without wine at each course; but we got along pretty well and enjoyed the many good things which were brought on during the hour we sat at table.

After the last course had been served and finished, every one, in true German style, shook hands with every one else and said, "malzeit;" the older ones waiting for the younger ones to make the advances; and when each one reached the old lady at the head of the table, instead of shaking her hand, it was respectfully kissed. Then the elder folks retired to the library and we young folks to the young ladies' salon, where we sang and danced and were merry for nearly two hours. We were afterward shown over the castle to see the numerous rooms, all of which are very large and fine, especially the banquet- and ball-room on the highest floor, which extend over the full length of the building. The floor, of course, is parqueted and as "smooth as glass." The only furniture is very high dark oak carved chairs. My friend told me that it was a custom in her father's family to give a servant a celebration in their grand ball-room when such servant has been in the family fifty years. A great feast is spread in the big banquet-room and all the family and servants, with their friends, attend, and then the master, with great ceremony, presents the faithful servant with a silver medal, and all drink to the health of both master and man, and then dance till morning. Herr Wentzel employs 200 servants at the "Schloss" estate, but has 1,500 in all on his various estates and in his sugar refinery.

Descending the grand stairway, we were shown into the beautiful drawing-rooms, containing exquisite furniture and hangings—the beautiful paintings forming a veritable art gallery, containing many masterpieces. Next the conservatory was visited, which contains many fine tropical plants and rare flowers, with an aquarium in the center of the room. From the conservatory to the porch and thence down the broad stone steps into the garden. The garden on one side of the castle and the lawn in front comprise nearly two hundred acres, and all surrounded by a high wall, guarded at every corner. Although Herr Wentzel has so many employees, some of whom are greatly attached to the family, yet the communistic and anarchistic feeling in that part of Germany is so strong that he finds high walls, guards with guns and Great Dane dogs necessary to protect himself and family in case of an uprising.

The garden is indeed beautiful, laid out with pretty walks bordered with sweet-smelling roses. We were led some distance from the castle to see what was intended as a surprise for us. It was an immense bed of strawberries and the plants were loaded with elegant ripe berries. We were from a wild and uncultivated country—so our entertainers thought—where nothing so nice as strawberries ever could possibly be. We knew they expected us to be surprised

and wonderfully delighted to actually pick ripe strawberries right from the plants themselves. We did our duty toward our friends and were actually astonished and nearly speechless with wonder to see strawberries. It would have been so impolite to have told them that Kansas produces ten times as many strawberries every year as Germany could in the very best season. But those strawberries were nice and we did enjoy them. While we were among the strawberries we were "kodaked" by the young Herr Wentzel, making a group of nearly a dozen young folks, and our pictures were taken at various places as we wandered about the grounds, which all was done for our benefit, so we might carry with us reminders of our pleasant visit. In the gardens we saw many peasant women working; their feet were bare and they wore short skirts and straw bonnets.

Our whole party, with other visitors, were taken on a tour of the whole place inside the walls—the barns, stables, dairy, poultry house, and even the dog kennels were visited. The sheep and pigs were perfectly white and their houses were wonderfully clean—"considering." The oxen, about forty in number, are immense beasts, used for labor instead of horses. In the carriage house and barn we saw the beautiful horses, used only for roadsters, and the handsome carriages, including the finest little "four-in-hand" I ever saw, which the young ladies drive. All the vehicles, blankets, harness, brushes, etc., were marked "C. W.," and I wondered if all the workmen had their clothes marked in a similar manner, but didn't like to ask. We then visited the "Cavalierhaus," where gentlemen guests are entertained who come to the hunt every year, and my good friend told me many pleasing anecdotes of the gay times that Schloss Teutschenthal enjoys during the autumn hunts. We then returned to the porch, where we had afternoon coffee and a rest. My friend seemed determined that we should see all the beautiful things on the place, and led us to the bath house, which is built over the little stream which runs through the castle grounds. This building, as all others, was finished elegantly, the walls and floors of handsome marble with a fine swimming pool in the center. Then the "Kugelbahn" (bowling alley) was visited, and for a half hour the "tenpins" had to suffer. From the Kugelbahn to the tennis court, and then to 6 o'clock lunch, after which the evening was spent with music and dancing. Supper at 9 o'clock, and all were in bed shortly after 11.

On the morning of June 28, we regretfully said our "auf wiedersehn," after many pleasant invitations to come again and visit the kind friends who had so nicely entertained us. We returned to the city of Halle and finished our visit to it, and then by train traveled about fifty miles northward to Wittenberg, where we stopped for a few hours. This place I described in a former letter, and the visit was made for the benefit of my brother and his friend, although my sister and myself enjoyed it also, as Wittenberg is a very pretty place.

Another fifty-mile ride the same day brought us safely to Berlin, to the little mother who had waited for us the seventeen days we were absent, and of course she was very glad to see us. We also were very glad to get back to the most beautiful of all German cities. We had traveled about eight hundred miles, nearly or quite one hundred of which was by bicycle. The line of our trip on the map of Germany would be almost an oval, with Berlin at one apex and Coblenz the other.

A Dog With False Teeth.

This canine curiosity is, appropriately enough, the property of a dentist in the West End of London—Edward Moseley, of Regent street. Myn Duivel, as Mr. Moseley has named his pet, is of the the Schipperke breed and of Belgian nationality. The dentist discovered him a year ago while holidaying in the Belgian capital. He had many good points, which counterbalanced to some extent his misfortune in being almost toothless. But this misfortune was accentuated in the kennels, where Myn Duivel was very unpopular among the other dogs, being attacked without the least chance of defending himself. His food had to be minced before he could touch it, and it was a pitiable thing to see Myn Duivel—

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a most entertaining pet—humbly submit to being worried by his brute companions.

So the idea occurred to Mr. Moseley to provide the dog with a substitute for his lost masticators, and after ten days of what Mr. Moseley describes as the most difficult work he ever did, the operation was successfully performed. One can well believe the task was not an easy one. The smallness of the teeth is amazing. They are quite half a dozen the inch—less than half the size of the smallest teeth made. The filing down of each tooth occupied two hours, and as there are twenty-four teeth, the reader will not need to be told that the grinding was a weary task. There was great risk of breakage in shaping the teeth, and Mr. Moseley declares that he "put in more hard work and took more skin off his finger-tips in shaping those teeth than in a whole year of ordinary work."

Myn Duivel was, of course, chloroformed, and at last, as Pat would say, every tooth in his head was out. But the difficulty was only then beginning. Models had to be taken of the dog's mouth, a necessary precaution, against which the animal revolted furiously. But the puzzle was ultimately solved; metal dies were cast from the models, and tiny platinum plates of double thickness were struck to fit each jaw. The outlay involved was considerable, the tools used being specially made. One mechanic was engaged on the case constantly for nearly a fortnight. The result is, however, eminently satisfactory, and the teeth undoubtedly save the dog much needless pain.—The Young Man.

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D. C. Nellis, Sec'y and Treas.

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The second snow of the season, on Monday night, caught the leaves still on the trees.

Quarantine cattle may now come north as feeders. The United States Department of Agriculture has so ordered.

The thirty-second annual meeting of the State Horticultural Society will be held at Topeka, December 27, 28 and 29.

The increase in the number of hogs marketed in Kansas City since January 1 is nearly a quarter of a million over the corresponding period last year.

Dressed beef steers are doing pretty well just now, at a little above \$5, in Kansas City. The top on Monday was \$5.25.

The bulls on the wheat market have had things pretty much their own way for the last few weeks. It seems reasonable to expect that prices will yet go higher than the present level.

There are a good many questions in the minds of voters at the coming election and the issues are so crossed as to make it difficult to vote in favor of some things desired without advancing others not desired. Consequence, general apathy on the part of thousands of voters.

Notice our "Blocks of Three" proposition in "Want column." You are a reader of the Kansas Farmer and know its value. You will confer a favor upon two of your neighbors by explaining its value to them, procuring their subscriptions for one year, and besides, you will secure the "Old Reliable" for yourself for another year free for your trouble. Do it.

The H. H. Brown Mfg. Co., Decatur, Ill., place the advertisement of their well-known dehorner before our readers in this issue. It affords a more humane means of removing the horns than the antiquated saw, and all progressive people will investigate the merits of the clipper as an instrument for this purpose. If your hardware dealer does not happen to have one, write the manufacturers for particulars and prices.

The Peace Commission, now in session at Paris, seems, according to reports, to be unable to get beyond the contention as to the Cuban debt. Spain insists that the United States shall assume it, or at least guarantee it. There are rumors that after discussion the Spanish Commissioners will be willing to let us off if we will assume half of the debt or a matter of \$350,000,000, on which they claim that the interest may be only 2 per cent. It is safe to say that any administration that would allow such a debt or any debt to be saddled upon the United States under such circumstances might as well pack its grip at the expiration of its term of office. Re-election of candidates of the party responsible would be out of the question.

ANTI-TRUST LAW UPHOLD BY THE U. S. SUPREME COURT.

One of the most important decisions ever rendered by the United States Supreme court was handed down from that tribunal last Monday, in what is known as the Joint Traffic Association Railroad case. Some years ago competition had become, to say the least, a great inconvenience to railroads. Often it was carried to the extent of bankrupting the weaker corporations. It had threatened all dividends on railroad snares and had raised its hand menacingly against the ability to pay interest on railroad bonds. Railroad managers had tried various forms of agreement to maintain rates. These had been broken almost as rapidly as formed, until finally great traffic associations were formed, with iron-clad provisions for preventing the cutting of rates.

Next came what is known as the Sherman anti-trust law, making unlawful all such combinations when they affect commerce between the States. This, like other laws, was not self-executing, and little attention was given to its provisions until, under the direction of the Attorney General of the United States, suits were brought to compel obedience to its provisions. These cases were fought through the lower courts with great determination and with great ability. The first to reach the Supreme court was the famous Trans-Missouri case. The court held that the Trans-Missouri Association of railroads was contrary to the anti-trust law.

This opinion was by a divided bench, the division being very close, viz., Chief Justice Fuller and Justices Harlan, Brewer, Brown and Peckham holding the Traffic Association illegal, while Justices Field, Gray, Shiras and White filed a dissenting opinion, upholding the association.

Soon after this decision Justice Field gave place to Justice McKenna. Although the Trans-Missouri case was considered somewhat of a test, yet the Joint Traffic Association prepared to make a stubborn contest in support of its existence. The case against it was begun on January 7, 1896, in the United States Circuit court for the Southern district of New York, the United States being complainant and the Attorney General directing its course.

The case went against the government in the lower courts, the Circuit court dismissing the bill and the Court of Appeals affirming the dismissal. The government appealed to the United States Supreme court.

The main contention of the government was that the traffic agreement is a combination to prevent competition, thus constituting a contract in restraint of trade or commerce.

The answer of the association maintained the legality of the agreement on the ground that the vast needs of commerce required joint action and that such action insures uniform and just rates and prevents secret and unjust discriminations.

Justice Peckham announced the decision. He said that the court could distinguish no difference between this and that of the Trans-Missouri case, decided a year ago, which was decided against the railroads. He said the only new point involved was as to the constitutionality of the anti-trust act. The court had reached the conclusion that, as railroad corporations performed duties of a semi-public character, it was within the constitutional power of Congress to regulate them, as provided by the anti-trust act. The only question was as to the policy of Congress adopting such a measure, and as to questions of policy the court, he said, had nothing to do.

The opinion was concurred in by Chief Justice Fuller and Justices Harlan, Brewer, Brown and Peckham. Three Justices dissented, namely, Justices Gray, Shiras and White. Justice McKenna took no part in the case, as the prosecution of the Joint Traffic Association was begun while he was Attorney General.

Under this decision that of the United States Circuit court for the Southern district of New York, and the United States Court of Appeals, both of which were favorable to the Joint Traffic Association, are reversed.

After holding that the provisions of this case and those of the Trans-Missouri case are not essentially different, the opinion proceeds:

"The natural and direct effect of the two agreements is the same, viz., to maintain rates at a higher level than would otherwise prevail and the differences between them are not sufficiently important to call for different judgment on the two cases on any such grounds."

The opinion then takes up the constitutionality of the anti-trust act, as affecting railroads. Justice Peckham says that "it is worthy of remark that the

question was never raised or hinted at upon the argument in the Trans-Missouri case.

"The fact that not one of the many astute and able counsel for the transportation companies in that case raised an objection of such conclusive character, if well founded, is strong evidence that the reasons showing the invalidity of the act as construed do not lie on the surface and were not then apparent to those counsel. * * * Upon the constitutionality of the act it is now earnestly contended that contracts in restraint of trade are not necessarily prejudicial to the welfare and security of society and that Congress is without power to prohibit generally all contracts in restraint of trade and that the efforts to do this invalidates the act in question."

Justice Peckham comments on the fears expressed by counsel for the railroad association that the effect of these decisions would be far-reaching, rendering illegal most business contracts or combinations, such as contracts to maintain wages, contracts of incorporation for any line of business, partnership contracts. "This makes quite a formidable list," the opinion states, "but it will be observed that no contracts of the nature described are now before the court."

The formation of corporations has never been regarded, the opinion states, as in the nature of contracts in restraint of trade. The same is true of partnerships. Proceeding, the opinion says: "Has not Congress, with regard to interstate commerce and in the course of regulating it, in the case of railroad companies, the power to say that no contract or combination shall be legal which shall restrain trade and commerce by shutting out the operation of the general law of competition? We think it has. * * * The business of railroad carrier is of a public nature, and in performing it the carrier is also performing, to a certain extent, a function of government which requires it to perform the service upon equal terms to all. This public service, that of transportation of passengers and freights, is a part of trade and commerce, and when traversing States such commerce becomes what is described as interstate, and comes to a certain extent under the jurisdiction of Congress by virtue of its power to regulate commerce among the several States. When the grantees of this public franchise are competing railroad companies for interstate commerce, we think Congress is competent to forbid any agreement or combination among them by means of which competition is to be smothered. * * * We think it extends at least to the prohibition of contracts relating to interstate commerce which would extinguish all competition between otherwise competing railroad corporations, and which would in that way restrain interstate trade or commerce."

"We do not think that when the grantees of this public franchise are competing railroads seeking transportation of men and goods from one State to another, ordinary freedom of contract in the use and management of their property requires the right to combine as one consolidated and powerful association for the purpose of stifling competition among themselves and thus keeping their rates and charges higher than they might otherwise be under the laws of competition. And this is so, even though the rates provided for in the agreement for the time be not more than are reasonable. They may easily and at any time be increased.

"It is the combination of these large and powerful corporations, covering vast sections of territory and influencing trade throughout the whole extent thereof and acting as one body in all the matters over which the combination extends that constitutes the alleged evil, and in regard to which, so far as the combination operates upon and restrains interstate commerce, Congress has power to legislate and to prohibit. The prohibition of such contracts may in the judgment of Congress be one of the reasonable necessities for the proper regulation of commerce, and Congress is the judge of such necessity and propriety, unless, in case of a possible gross perversion of the principle, the court might be applied to for relief."

Referring to counsel's claim "that the only resort open to railroads to save themselves from ruinous competition is that of agreements among themselves to check and control it," Justice Peckham says:

"The natural, direct and immediate effect of competition is to lower rates and thereby increase the demand for commodities, the supplying of which increases commerce, and an agreement whose first and direct effect is to prevent this play of competition restrains, instead of promoting, trade and commerce."

Commenting on the suggestion by

counsel for the railroads, that, deprived of the right to enter into the kind of agreement prohibited by the Sherman law, the consequences of competition would be destructive to railroad interests, the court expresses the opinion that good sense and integrity will prevail and that railroads will continue doing business at a profit.

Just what will happen in the demoralization of rates cannot probably be fully foreseen. If it shall result in the demolition of discriminations, whereby the cost of transportation is made more to some communities than to others in proportion to the service rendered; if it shall result in less cost for the service without injustice to owners of railroad properties or their employes, then the country will be the gainer. Possibly rates from the central West to the Mexican Gulf may now be reduced to correspond with rates for similar service to the Eastern seaboard.

Not unlikely one of the earliest results will be further consolidations of railroads until finally a very small number of corporations, possibly one great corporation, will own the railroads of the entire country.

Sorghum for Swine.

Mary Best, of Medicine Lodge, Barber county, Kansas, who, for years, has realized very satisfactory results from rearing swine on sorghum, both as pasturage and grain, has written some of her experience to Secretary Coburn, of the State Board of Agriculture, from which the following is taken:

"Our experience in rearing hogs on sorghum has been very satisfactory and has proved for this district the best way of handling them. We have a hog lot of about four acres, including a good orchard, and keep about an average of 100 hogs on hand the year around, selling a bunch say every two months, the little ones that come replacing those sold. The lot is situated on bluffs of the river. The high part is perfectly drained and is never muddy, while the bluffs and trees afford excellent shelter in both summer and winter. In addition to this natural protection we also have warm, dry houses for the hogs in winter.

"A general outline of our method is as follows: About April 15 we plowed the lot and drilled it with Folger's Early sorghum, using a bushel or more of seed per acre. This variety grows very rapidly, and within three weeks the hogs were eating the young plants. They rooted some up, of course, but not much, and the growth was such that it kept ahead all summer and afforded excellent feed. If convenient, it would be well to keep the hogs out until the cane is a few inches high, at least. In September we fenced off half the lot, where the orchard is, plowed it and drilled in rye. When a few inches high we let the hogs graze on the green rye, and it made good pasture until May. In the winter we fed fifty cows in the lot outside of the orchard, on sorghum with all its seed on. This was Colman's, and had been listed in, six pounds to the acre. It was very sweet and tender, and yielded at least thirty bushels of seed per acre. Hogs and cattle alike ate it with great relish. Up to April 1 we fed this, two-thirds sorghum forage to one-third good corn fodder with considerable of the corn left in it. Nothing was wasted except corn stalks, and the animals gained all the time. Then, as soon as the cows were moved from the two acres used as a feed lot, it was plowed up, and after a heavy rain was drilled very thickly with Folger's Early sorghum again. By the middle of May the hogs had deserted the rye patch almost entirely for the new cane. We have grain constantly accessible to all, in a self-feeder, and it is surprising how little is used from it so long as the rye and sorghum afford good pasture. Our self-feeder is generally supplied with corn, sorghum or Kafir corn seed, or chop—in fact, the least expensive mixture available. Salt and ashes are also kept in troughs near by.

"In our herd of hogs we let our sows and shoats run together, and probably the sows get rather fatter than desirable, but they do well and rear excellent pigs; and then, again, leaving them all accessible to feed saves so much labor that we do not think it pays to bother with more painstaking methods. Nothing we have ever tried gives as large profits as hogs raised thus. Our sorghum crop is certain and heavy, and we use it every day in the year. In cutting we always begin early, when the cane is juicy and the seed in the dough, and do not in any case let it get too ripe for fodder. Sorghum is our main reliance, but this year we intend adding artichokes and pumpkins as an experiment.

"Have never had a case of hog cholera; never lost any hogs from sickness, ex-

cept some that had eaten the carcasses of animals that had died of blackleg. "The water for the hogs is pumped from a well in the orchard, by a wind-mill, and they have the river to wallow in."

Some Reflections.

Editor Kansas Farmer:—To-day (October 17) it is snowing, an extraordinary thing here, and something that has never happened here before in the last twenty-seven years, to my certain knowledge. The snow caught me with 125 bushels of Acme potatoes in the ground yet, but I trust no damage is done to them. I had all stock under cover in their respective barns, and the mows full of clover hay and cut corn stover, with a load of shelled corn to run on in the bin.

Well, we had a very late spring, with over twelve inches of rainfall above the normal, and I did not finish planting corn till the night of June 2, yet this corn has made from thirty-five to forty bushels per acre, and was all in the shock by September 28, thirty-seven acres in all—not a very large field, but I do my farm work all alone and have forty-three acres of other crops to gather and care for.

As far as I know, I am the only man in this county that annually cuts up his entire corn crop, and, as I have had some experience, I will talk on cutting up corn in this letter, although all corn is now cut up. I have had corn cut up with the various sleds, the three principal twine binders, and by hand, and as matters now stand in my neighborhood, hand labor being abundant, I greatly prefer hand cutting to any other way. I allowed some of the hands to use my corn sled this year, for one-half day, and the ears of corn were so large and the stalks so brittle that the sled knocked off more ears than were left on the stalks, and I soon put a veto on the sled. My corn was drilled in this year, and rather weedy in the row, and as the twine binders cut and bind up the weeds with the corn I did not want them to cut for me, as I wanted my corn fodder free from all weeds, as I expected to thresh it, and perhaps grind the threshed stover up into meal, and I did not want any bitter weeds in it to spoil the taste of the ground product. So I began to look around for hands to cut corn, and I soon had six of them at work. I paid them 1 cent more per shock than was ever paid here before, and as a result I had a chance to hire forty more if I needed them. I gave them 6 cents per shock and their dinner, for 14x14 hill shocks, and as there are just sixteen of these shocks per acre, I paid at the rate of 96 cents per acre and their dinners. Small boys, who had never earned a cent in their lives, made \$1.50 per day. All twine-binders ask 50 cents per acre and their keep, using four horses of their own, and sometimes eight, which is equal to boarding the hand cutters, but I only gave them their dinner. Now, it is worth all of 25 cents per acre to shock bound corn, which, with the cost of the cutting, makes 75 cents per acre, and it takes just 50 cents' worth of twine to tie up an acre this year, which raises the price of machine cutting up to \$1.25 per acre, or 25 cents per acre above hand labor, or almost \$10 on my little crop of corn.

Now, from my past experience with twine, I do not want any more twine placed before my stock, as I found huge mouthfuls of chewed-up twine last year that my stock had chewed up, found out their error, and spit out and rejected. While I cannot say that the twine ever caused me much injury, except in the case of one sheep, yet it does the stock no good, and I do not want it around. Bound fodder handles very handily, and this is the only thing in favor of the twine binder, yet I believe I can put my Yankee wit at work and devise a scheme that will stand me well in stead. Of course I use a low-down "Farmers' handy wagon"—repeatedly advertised in these columns—and I am thinking of making a wide-track wagon with two stiff axles, with corn-planter wheels, that I can hitch directly behind the "Handy," when in the field, and leave it there when hauling to the barn. On this wide wagon I shall have an upright and a tip-up pole, same as old-fashioned well sweeps, and with this pole and a short rope, I believe I can easily swing a shock onto the rear of the "Handy," where I can jerk it to the front end and continue until all loaded, when I will haul directly to the thrasher.

C. J. NORTON.

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Is the title of a weekly page that displays at a glance the panorama of people prominently before the public—portraits and paragraphs that tell the week's history among the notables.

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Publishers' Paragraphs.

Mr. E. A. Fitz Gerald, the mountain-climber, will describe in McClure's Magazine for November the first view, so far as known, of a human being from the summit of Aconcagua and the first ascent of Tupungato—the highest mountain peaks in the Western hemisphere. The honor of making the first ascent of these two mountains fell to a party that Mr. Fitz Gerald himself organized and led. The article will be illustrated from photographs taken by the author.

Snow will soon be flying and runners will take the place of wheels on the roads. This suggests that in this issue will be found the last advertisement for the season of the famous Mica Axle Grease. Later on either this advertisement or another one will appear, but for several months owners of vehicles will not invest much money in axle grease. Those who have used Mica Axle Grease during the past months will be sure to buy it again in the spring, and those who have never bought it would do well to cut the advertisement out of this issue and paste it up as a reminder.

It is now the time of the year when the harvest is finishing. All farmers know about the limit of the field's crop for the season. The perishable products should be utilized in the next few weeks to the best possible advantage. This can best be done as a rule by cooking potatoes

and other such food for the young things about the barn and feed lots. It is also well to cook any grain that is fed to them, especially in cold weather, and later on when the grain takes a dry, flint-like condition, it is improved by cooking as a food for all of the live stock. There is no better utensil for doing this than the old reliable Farm Boiler, furnished by D. R. Sperry & Co., Batavia, Ill., whose advertisement appears in this issue.

We are starting in this issue of the Kansas Farmer the annual trade announcement of the "Petaluma" Incubator Co., of Petaluma, Cal. Their advertisement will be found on another page. These people have long been manufacturing these Petaluma machines, and it is but fair to say that they are esteemed most highly where they are best known. They lay claim to superiority of material, construction and results, and are prepared to show dates to back up their claims that they are the oldest manufacturers of successful hot air machines. They use in building these machines the famous California redwood, which is said to possess special merit for this purpose. They publish a handsome catalogue, which they mail free to all inquirers, an examination of which will show prospective buyers that they can save them several dollars freight bill by their system, which is to prepay the freight at the prices quoted on their machines anywhere in the United

States. Write them for a copy and kindly say that you saw their advertisement in our paper.

In more than half a million homes the Youth's Companion comes every week, the welcome guest of young and old—read with equal interest by every member of the household. The best of fiction, poetry, sketches of travel, instructive articles, comment on current events and selected miscellany and anecdotes fill its columns from week to week and from year to year. The publishers promise that the volume for 1899 will surpass all former ones, in variety, interest and value. Among the 200 distinguished contributors already engaged are Hon. John D. Long, Secretary of the Navy, Edward Everett Hale, Henry M. Stanley, Sarah Orne Jewett, W. D. Howells, Poultney Bigelow, Herbert E. Hamblen, Hon. Carl Schurz, Rt. Hon. James Bryce, John Burroughs, Robert Barr, Thomas Nelson Page, Bret Harte, William Black, Alfred Austin, Andrew Lang and Dr. William A. Hammond. All subscribers to the 1899 volume will receive the Companion's new calendar, exquisitely colored, with a border of stamped gold. The paper will be given free also from the time subscription is received until January 1, 1899, then a full year to January 1, 1900. A handsome illustrated announcement and sample copies will be sent free to any one addressing the Youth's Companion, 211 Columbus Ave., Boston, Mass.

Horticulture.

PLANT BREEDING BY BUD SELECTION

G. Harold Powell, in American Gardening.
The classic example of the nectarine springing from the peach and the peach from the nectarine is familiar to all and occurs at present with frequency.

THE GRAPE.

In California, in an Isabella vineyard belonging to Mr. J. F. Pierce, of Santa Clara, several vines sported in the year 1882. The grapes on these sports were black with a light bloom, immense in size and exceedingly sweet and delicious. The foliage was large and the vine a strong grower and a prolific bearer. This grape was disseminated under the name "Royal Isabella" and "Isabella Regia," but recently it was taken up by Mr. John Rock, of the California Nursery Co., and named the "Pierce" by the State Horticultural Society. The Pierce has been cultivated under all conditions and shows no tendency to revert to its parent form, and I am informed by Mr. Burbank that it is now extensively grown in California and brings higher prices for table use than any other of the American or vinifera types.

The grape is prone to bud variation, and it is not uncommon to see a blue grape with a branch bearing a white grape, or bearing a grape of a similar color and large size.

A variation of the latter class occurred very recently in the vineyard of Walter F. Faber, of Poughkeepsie, N. Y., and Darwin describes several similar cases in his "Plants and Animals Under Domestication."

THE PLUM.

The owner of a plum orchard in California, Dr. Kimball, recently wrote me that a branch in a Coe's Golden Drop plum on his place has been bearing red plums for years, with size, quality, shape, pit and foliage similar to the Coe's Golden. Thomas Andrew Knight records the case of a Yellow Magnum Bonum plum producing a branch which bore red Magnum Bonums.

THE APPLE.

In cherries, pears and apples there have been numerous instances of bud variations.

About 1878, Mr. E. C. Banks, of Waterville, Ontario, Canada, noticed a branch in a Gravenstein apple tree with fruit of a darker and different color from the usual type. This apple is now being propagated, and I am informed by Mr. Banks that the fruit brings 50 cents to \$1.25 per barrel more than the ordinary Gravenstein, and that it is equally good in size and has better keeping qualities. The apple was named the Bank's Gravenstein at the World's Fair and it promises to be an acquisition to the list of fall varieties. There is a striped variety of Fameuse which is propagated, Professor Budd informs me, and the Baldwin and the Astrachan often throw sports.

THE PEACH.

One of the most interesting cases of bud variation I know occurs in a peach orchard of P. L. Cannon, at Bridgeville, Del. A few years ago there appeared a couple of branches on a Mountain Rose tree bearing fruit which ripened a week or ten days earlier than the Mountain Rose. At first it was thought to be a case of yellows, but later on, budding from these branches, Mr. Cannon found that the peculiarity was reproduced. I can describe the peach in no better manner than to use Mr. Cannon's own words. He says: "I had a few trees budded, and, to my surprise, they reproduced the same, which is a distinct variety, and I consider it one of the most valuable known, ripening with Hale's Early and the first few Troth's Early that begin to soften. It is a free-stone and partakes of the character of Hale's, Troth's and Mountain Rose, much better than a Troth in flavor and larger. This year the fruit did not rot, and never has speckled and rotted on any kind of land where I have planted it."

OTHERS.

It is hardly necessary to point out that most of the varieties of potatoes, horseradish, sugar cane, bananas and some onions have been produced from bud variations, as they are not multiplied by seeds.

The Golden Queen raspberry is probably a sport of the Cuthbert. It originated on the grounds of Ezra Stokes, at Berlin, N. J., and was introduced to the public by J. T. Lovett.

The list of bud varieties could be largely extended. Thousands have undoubtedly been produced which have escaped the notice of horticulturists. Between the violent variations or sports, and the slight variations of all buds there is every gradation, but only the

striking ones have attracted attention. In the future, however, we shall hear more of bud variations, because we are coming to feel that every bud has its own individuality, which can be increased through propagation.

CHANCE UNCERTAIN.

But to look to the gradual upbuilding of horticulture through sports is as erroneous a principle as to depend on chance seedlings to accomplish the same end. In fact, sports are not to be looked upon with any hope of permanent improvement. Nature's method of evolution is by gradual extension, and sudden outbreaks in any direction are out of harmony with the surrounding conditions. It is the slight extension of roots or a larger leaf surface, or the slightly larger or smaller trunk that gives a tree an advantage over its competitors.

Now, as I have already pointed out, bud varieties are not rare, as every bud is truly a variety in that it differs from every other bud. This being true, then have we not here a vital principle on which to begin systematically the improvement of horticultural types?

HOW TO IMPROVE.

In the present lists of fruits are numerous excellent varieties, and the way to secure better ones is to make them. The requisites to this end are, first, an ideal of the improved type desired; second, judicious selection through successive generations of scions or buds from branches whose fruit approaches the ideal; third, high culture to stimulate variation.

Horticulturists have never made a systematic attempt to improve a variety after it once appears, or even to maintain its standard of excellence, for improvement has ever been looked for through new varieties. The present system of propagating fruits in the nursery or on the farm, as followed by most fruit-growers, tends to deteriorate a variety. Buds are selected from bearing trees or non-bearing trees, or from nursery trees. The effect in every case is to transmit the tendency already existing in the bud to the new tree, and as a result there are orchards scattered all over the country in which there are many trees that, even with the highest culture, will not pay the interest on the land they occupy. Nine orchards in every ten have been propagated with no more care in selecting the buds from which the trees came than was exercised in the propagation of the Fay's plantation already mentioned. On a large fruit farm with which I have been connected, this principle has been considered so important that every young orchard is top worked with buds from trees which have shown a bearing habit for years.

SUMMARY.

In conclusion, then, the following points seem worthy the study of every horticulturist:

- (1) The tree is made up of a collection of individuals or buds, no two of which are alike, because of dissimilar conditions surrounding each.
- (2) The differences in various buds are hereditary.
- (3) Organic evolution has taken place by the selection in each generation of those differences which give the survivors a slight advantage in the struggle for existence.
- (4) Applied to horticulture, this law in one of its applications would read: Varieties can be maintained and improved by selecting buds from the trees or branches which are superior to the whole orchard.
- (5) To depend on chance seedlings or sports for new varieties removes horticulture from a scientific basis.

Trees and Grasses on Kansas Upland.

Editor Kansas Farmer:—I note the experience of a correspondent in growing catalpa trees in sandy soil. My experience, on upland, in the Smoky Hill valley, near Abilene, Kas., constrains me to say, after fifteen years' experiments, that they won't do any good, and I do not believe there is a thrifty catalpa tree on that kind of land in the State. Like "Bromus inermis" and other drought-proof grasses, they are a fake, pure and simple. Let people plant Osage orange and Russian mulberry hedges and groves and they can cut all the posts they want. This I know, because hundreds of miles of hedges of the Osage orange, planted within the last twenty-five years, are standing all over the plains of central Kansas to-day to prove it. I have six miles of hedge on my own land, and good posts can be cut in any rod of it. All my other tree-planting has been a failure on upland prairie. All my experiments with tame grasses have been failures except alfalfa. Wherever it once gets started, in central Kansas, it flourishes, and well-prepared land and one good rain will start it.

Dawson, Pa. JNO. H. WURTZ.

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VALLEY GROVE SHORT-HORNS.

THE SCOTCH BRED BULLS

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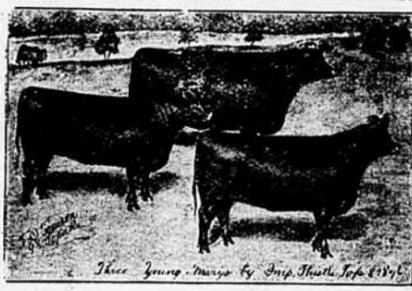


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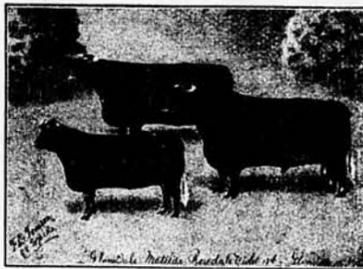
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THE Harris bred bull, GALLANT KNIGHT 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruickshank bulls, Imp. Thistle Top 83576, Earl of Gloster 74523, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now, bred to Gallant Knight.

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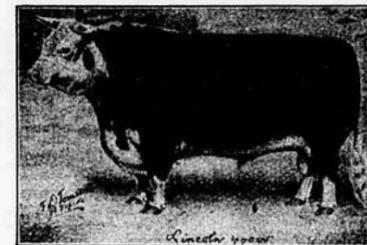
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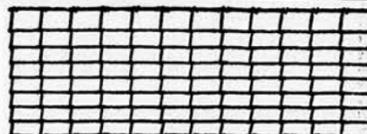


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In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kas., to whom all correspondence with this department should be addressed.

Why Not Attend the State Dairy Convention?

Secretary Hurd, of the State Dairy Association, is putting forth his best efforts to make the next meeting a grand success. A long list of premiums has been secured, and published in the Kansas Farmer of September 15. The full program will be published shortly—just as soon as it can be completed. A glance at the preliminary draft of subjects forebodes a feast of good things. Not only will the creamerymen and butter-makers be represented, but special attention will be given to the needs of the creamery patron. Such questions as the breeding, feeding and handling of cows and the getting the most out of our skim-milk will be discussed at length. An interesting and valuable feature of the program will be a patron's examination, in which some of the most successful creamery patrons will be quizzed upon various problems connected with the production of milk.

Since there will be an opportunity to discuss the most economical way to feed an animal, how the feed of a dairy cow should vary from that of a beef, how the calf intended for the dairy should be treated differently from the one intended for the block, the State dairy convention should interest not only the dairyman, but the farmer who produces both milk and beef, and even the one who produces beef alone. The principles underlying the rational feeding of live stock can be learned as well at a dairy convention as at a beef gathering, and it is to be hoped that, where possible, the cattlemen will attend the meeting, feast on the good things offered, and become acquainted with the dairymen of the State and their needs.

Every creamery should take a special interest in this matter and in the early part of November issue circulars to its patrons calling attention to the convention, the advantages derived from such a meeting, and urge every patron to attend.

Let some interested dairyman or creameryman call the attention of the local papers to the meeting and ask them to advertise it and if possible print the program.

Railroad rates have been secured for one and one-third fare round trip on the certificate plan. D. H. O.

Notes From the Agricultural College Dairy.

The dairy class has been testing adulterated milk. Each member was supplied with five samples of milk, without any knowledge of how they had been treated, and asked to give a diagnosis of each sample. By the use of the thermometer, lactometer and Babcock test they found that one sample was normal milk, one sample had been watered, one sample skimmed, one both watered and skimmed, and one had cream added to it.

The College dairy has been experimenting with ether as a means of distinguishing between butter and oleomargarine. Take a very small piece of butter and oleomargarine, about the size of a pin-head, and place in separate spots on a clean piece of glass. A drop of ether placed on the butter will assume a wavy but somewhat regular outline, while a drop placed on the oleomargarine will have a rugged outline, very much like the appearance of a cog-wheel with the cogs sharpened to a point.

The class in dairy industrial has been investigating the intricate machinery of cream separators. Both De Laval Baby No. 3 and the U. S. No. 3 have been taken apart, examined and cleaned. They are now in good shape to do a large amount of work, if it were not for the fact that the kitchen takes practically all the milk.

On October 13, the College herd of thirty cows, most of which have been giving milk since January, were turned on wheat pasture. The average daily yield of the herd for the week previous was 392 pounds. The average daily yield of the herd for the four days following (up to the time of the present writing) was 430 pounds, an increase of 38 pounds.

On Saturday, October 15, the Veterinary department inoculated some hogs as proof against hog cholera. The only available place for the operation was in front of a row of cows. The squealing of the hogs caused the cows to be irritated and nervous. The yield of milk from these six cows was six pounds be-

low normal, or an average shrinkage of one pound per cow.

The cold, drizzling rain that came Sunday afternoon, October 16, was a hard one on dairy cows that had to remain outdoors. When the storm came up the College herd was brought in from pasture and given warm, comfortable shelter in and around the barn. They were fed their usual feed of ensilage and alfalfa hay. There was no decrease in milk yield Sunday evening, but Monday morning there was a shrinkage of ten pounds for the herd (thirty cows), notwithstanding their comfortable quarters during the night. The next evening there was a shrinkage of seventeen pounds, and on the following Tuesday there was an additional shrinkage of twenty-nine pounds. D. H. O.

Some Points From a Creamery Patron.

Editor Dairy Department Kansas Farmer:—Referring to the Dairy page of Kansas Farmer of October 6, 1898, I find two reports from patrons of Meriden creamery (of which I am a patron) which I cannot overlook without making a few observations and asking a few questions.

I agree with Mr. — on his first proposition, that \$14.02 cows don't pay, and yet Mr. — says "he thinks he averages up with his neighbors." Now, his neighbors are my neighbors, too, and it is to defend those neighbors against \$14 cows and \$28.50 calves that I write this article. I see in the same column a report from one of his neighbors whose cows averaged \$46.80 for milk alone in 1897 (which is quite considerably better than mine did), and he valued his calves at \$12.50 per head, while Mr. — values his at \$28.57 per head.

Now, taking Mr. —'s creamery record for 1897, I find he was entitled to 12,930 pounds of skim-milk from the creamery, and he says he fed 10,320 pounds of it to his pigs, leaving 2,610 pounds for his calves, which would feed them about thirty days. If I could get such "scrub" cows to raise such calves on so little milk I would go into the calf business.

It is unfortunate that Mr. — made his 1897 report before next fall (1899), for then his "calves" would have been one year older, and consequently worth more, and he might have averaged better than his neighbors.

Now I wish Mr. — would tell the readers of the Farmer how he raises his calves, what he feeds them and how he feeds it, how old the calves were at date of valuation, etc., and he will confer a lasting benefit to the farmers and dairymen of Kansas, who are all anxious to raise that kind of calves.

But before closing this article, I want to ask Patron No. 2, in same column, what breeds of cows he milks? What and how he feeds them to secure such results? How many different cows he milked during the year to produce the milk he reports? Is the value of the skim-milk included in his report, and if it is, what is it valued at? Meriden, Kas. G. W. PRIEST.

Pasteurization as Applied to Butter-Making.

By Profs. E. H. Farrington and H. L. Russell, Bulletin No. 69, Wisconsin Experiment Station, Madison. Free as long as the supply lasts. A bulletin of forty pages, giving in detail experiments conducted by the usual thorough and exhaustive methods of this station. It is difficult to summarize this bulletin, as every paragraph is of interest and should be read by butter-makers who are considering Pasteurization. The general conclusions are that Pasteurizing does not injure the flavor as judged by American standards. It increases the keeping quality to a perceptible degree. The slight advantage as to keeping quality would, in all probability, be offset by the injury which it gives to the grain, as judged by American standards, and when the extra labor and expense involved in this process is taken into consideration, it is hardly to be expected that the system would increase returns over the ordinary method.

According to present demands of the American market the introduction of Pasteurization into creameries already making a good product would not pay. In creameries that experience a difficulty in making a first-class product, its introduction would be of material assistance. If the demands for export butter should reach any considerable proportions, the employment of the Pasteurizing system might be of value, since the standards demanded by foreign markets are as easily obtainable, or even more so, by the Pasteurizing system as by any other.

Creamery patrons will be interested to know that Pasteurized skim-milk held in cans kept sweet forty-eight hours in

some cases, and as a rule twelve to twenty-four hours longer than un-Pasteurized skim-milk. H. M. C.

Variations in Milk and Milk Production.

Prof. E. Davenport and Prof. W. J. Fraser, Bulletin of the Illinois Experiment Station, Urbana. Free on application.

This bulletin of twenty-eight pages gives the results of over a year's careful work. These experiments developed the fact that the yield of milk and butter fat per hour varied with the length of time between milkings; the secretion calculated per hour is greater during the shorter period. The variation in the per cent. of butter fat at different milkings of the same cow is remarkable to those who have not studied this question. During a single month one cow's milk varied from 2.7 to 4.2 per cent., and another's from 2.8 to 6 per cent. The total yield of butter fat also varied greatly, one cow showing a difference of 40 per cent. in the yield of two consecutive days. The conclusion of the experiments in regard to this subject is that nothing could be more positively correct than that milk is an exceedingly variable product. A close study of the details of these experiments cannot fail to impress the reader with the belief that the cow, though dependent and to a great extent influenced by her environment, is yet inclined to many and often extreme individual variations not assignable to any visible external cause.

This bulletin adds to the evidence already published by the Kansas Experiment Station, that especial care should be taken to milk cows clean—with one cow the first pint of milk testing 1.5 per cent. butter fat, while the last pint tested 11.8 per cent. If the cow is abused or made uncomfortable while being milked the last rich milk is not secreted.

These experiments also bring out the great difference in profits to be obtained from different cows. Two cows were fresh the same day, and for three months they were fed exactly the same amount of grain and what roughness each would eat. The better cow ate only 7.6 per cent. more roughness than the poorer cow, but gave 48 per cent. more milk and 11 per cent. more butter fat. The better cow produced 1,058 pounds of milk and 12 pounds of butter fat out of an extra feed of 112 pounds of hay and corn fodder. At 15 cents a pound for the butter fat, this would be getting \$32 a ton for the extra hay and fodder fed the better cow. The authors conclude that the difference in favor of the better cow is far greater than any per cent. of profit the dairyman may hope to make, and that the profits will depend upon the careful selection of the animal machine that is to transform feed into milk and fat and money.

Kansas dairymen, send for this bulletin. H. M. C.

Have You a Question to Ask?

At the State Dairy convention, that meets in Topeka, November 16, 17 and 18, it is the intention to secure representatives of creamery patrons, creamery managers and creamery butter-makers and ask them questions upon their various lines of work. These questions will needs be prepared beforehand, and, if there are any questions that any one would like to see brought forward and discussed at such a meeting, now is the time to hand them in. Creamery patrons, are there not some questions you would like to ask and have explained by creamery managers or creamery butter-makers? Creamery managers and creamery butter-makers, do you not want, in turn, to quiz your patrons? Let there be a generous supply of questions, and by a harmonious discussion of the different sides of the creamery business, each other's wants and difficulties will be better understood. Send such questions to D. H. Otis, Manhattan, Kas., and they will be turned over to the proper authorities.

To Butter-Makers, Secretaries and Managers.

The seventh annual convention of the National Creamery Buttermakers' Association will be held at Sioux Falls, S. D., January 23-29, 1899. Reduced railroad fares from all parts of the United States.

CREAM SEPARATORS

De Laval "Alpha" and "Baby" Separators. First—Best—Cheapest. All Styles—Sizes. PRICES \$50 TO \$800. Save \$10 per cow per year. Send or Catalogue. THE DE LAVAL SEPARATOR CO. Randolph & Canal Sts., CHICAGO. 74 Cortlandt Street NEW YORK.

An attractive program will be prepared, and between \$2,000 and \$3,000 cash will be distributed among competing butter-makers. If you feel interested, write for program to E. Sudendorf, Secretary, Elgin, Ill.

Death By Neglect.

Dr. Bye, the eminent specialist, of Kansas City, Mo., says thousands of persons die from cancer every year from no cause save neglect. If taken in time not one case in a thousand need be fatal. The fear of the knife, or the dread of the burning, torturing plaster causes a few to neglect themselves till they pass the fatal point where a cure is impossible, but by far the greater portion die because their friends or relatives, on whom they are dependent, are insensible to their sufferings and impending danger till it is too late. Book sent free, giving particulars and prices of Oils. Address Dr. Bye, Box 464, Kansas City, Mo.

TRY IT FREE!

PEOPLE ARE PLEASED WITH The Farmer's Friend.

C. C. More, Clyde, Kas., says he tried everything he knew to relieve a sick cow, when one dose relieved and cured the animal in thirty minutes.

Mrs. J. C. Dodge, Idana, Kas., says: "Wasatusa is the best medicine we ever used."

SAMPLE BOTTLE OF WASATUSA

THE GREAT HEALER. Sent FREE to any address on receipt of three two-cent stamps to pay the postage.

CURES Rheumatism, Neuralgia, Earache, Toothache, Headache, Gout, Sore Throat, La Grippe, Colic, Cholera Morbus, Diarrhoea and Summer Complaint, Pains in the back by acting on the kidneys, Corns, Bunions, Pain of all kinds.

An excellent remedy for Horses and Cattle in cases of barbed wire cuts, colic, etc.

Price 50c and \$1.00 per Bottle.

If your druggist does not handle our goods write for an agency for your neighborhood. Address

DR. A. B. SEELYE MEDICINE CO., Abilene, Kas.

Ask your grocer for Dr. Seelye's Flavoring Extracts. Triple strength. The best on the market.

CANCER

The following and many other reliable persons testify that I thoroughly cure Cancer without the knife. Hon. E. W. Jackson, president board of education Lima, Ohio, was cured seven years ago of lip Cancer. Prof. H. McDiarmid, Hiram College, Hiram, Ohio, cured seven years ago of face Cancer. Had undergone several operations before with knife. Address, Dr. C. Weber, 121 W. 9th St., Cincinnati, Ohio, for further particulars and free book.



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With Dumping Caldron. Empties its kettle in one minute. The simplest and best arrangement for cooking food for stock. Also make Dairy and Laundry Stoves, Water and Steam Jacket Kettles, Hog Scalders, Caldrons, etc. Send for circulars. D. H. SPERRY & Co., Batavia, Ill.

PEACE. PROSPERITY.

Now is the time to send for a description of the FAMOUS O. I. C. SWINE,

two of which weighed 2806 lbs. First applicant gets a pair ON TIME and secures agency. L. B. SILVER CO. 179 Summit St. Cleveland, O.



The Improved U. S. Cream Separators

In thoroughness of separation take the lead. In completeness of design and ease of operation excel all others.

Are more substantially made and are superior in all points to all others.

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Agents in all dairy sections.

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VERMONT FARM MACH. CO., - Bellows Falls, Vt.

How to Make Dairy Farming Pay

is a problem that is easily solved if the farmer has good cows and a

SAFETY HAND SEPARATOR

to do the skimming. The machine will pay for itself in six months and will last a lifetime. There is a considerable saving of labor in its use when compared with the pan system, aside from the 20 to 25 per cent. saving of butter fat. Our free circulars tell all about it.



BRANCHES: **P. M. SHARPLES,**
Elgin, Ill. West Chester, Pa.
Omaha, Neb.
Dubuque, Iowa.

Selection of Seed Corn.

Every Kansas farmer should select his seed corn for next year without delay. The best percentage of germination has been secured from seed corn gathered when quite green and kiln-dried. For the majority of farmers, this method is not practicable, but nearly every farm house has a garret warmed by the kitchen chimney, where seed corn could be stored to "cure." The enterprising farmer will make use of the facilities at his command.

If corn is allowed to remain out in the field until freezing weather comes on, it will generally give a lower percentage of germination than that harvested and dried earlier in the season. It is freezing when the grain is wet that damages the germ. How to secure the highest possible percentage of germination is a problem of the utmost importance to every corn-grower. There is no doubt in my mind that a poor, uneven and irregular stand reduces the yield in all our best corn-growing regions more than all other causes combined. Inherited tendency to barrenness, the next greatest cause of a low yield, can also rightly be attributed to the seed. All the possibilities of next year's crop—yes, of many crops to come—are bound up in the few bushels of seed corn that we select. Well-selected seed will return a thousand-fold its cost, while poor seed will continue, by the law of atavism, far into the future to plague the man that uses it.

After the seed corn is thoroughly dry, it can be subjected to temperatures below freezing without the slightest danger of injury. A good place to store dry seed corn is in shallow boxes in the "loft" of some farm building. It may be kept here four or five years with but slight deterioration in vitality. The editor of the Rural New Yorker, in 1896, reported an experiment in which seed corn eighteen years old showed the following percentages of germinability: Field corn, 30 per cent.; popcorn, 60 per cent.; sweet corn, 75 per cent.

Perhaps the practical farmer would like to know when and how to select his seed corn this fall. I answer: Do not let another week pass by until you have attended to this important duty. It ought to have been selected as soon as the crop was ripe enough for the husks to be dry. Those who have not yet selected it can do so with little extra labor during husking time by placing a barrel in one corner of the wagon-bed to receive the finest ears as they are husked. The ears should be taken from short, thick stalks, with short internodes, rather than from the tallest stalks. Ears should be taken that hang down, having the husks somewhat open. Such ears were probably the first to ripen and will impress their offspring with the same desirable characteristic. It is better to select ears of average size rather than the largest, providing they be perfect in form and show the right quality of grains. Much depends upon the length of the grain—the longer the better. The cob ought to be of medium size, small rather than large, and filled out with grains over the end. The grains should be crowded together, so that the ear feels heavy and solid. We want no ears with the grains loose upon them. The rows of grains should be regular, and the whole aspect of the ear should be somewhat thick and heavy rather than long and slender. Of course, the variety of the corn will, in a measure, determine the shape of the ear and many of the qualities of the grains.

I believe an early-ripening variety is to be preferred in Kansas to the late varieties. Of course, some of the very earliest varieties are too small to yield well, and here the farmer will have to use his judgment according to his experience and location.

Farmer, select your seed corn and do not procrastinate. It will pay you to select now. **GEO. L. CLOTHIER,**
Kansas Experiment Station.

Soil Robbing and Soil Preservation.

I find floating around the press of the State a clipping credited to the Reflector, which reads, in substance, as follows:

"A. E. Martin, living on the old Sam Reed farm, near Baker's bridge, two miles southwest of Abilene, raised sixty bushels of corn per acre in 1898 and seventy-five bushels in 1897 on thirty-five acres of land that was broken from the sod two years ago. For crop of 1898, ground was plowed ordinary depth, check-rowed, cultivated four times and hoed once."

If every acre of land now in cultivation in Dickinson county had been broken from the sod only two years ago, no one in the county would ever have known there was a dry period this season, even if only ordinary methods of cultivation had been practiced. Mr. Martin can depend on fairly good crops on this new land for from five to ten years, according to its quality and whether bottom or upland; but if cropped successively for twenty years without anything being restored to the soil, this land will accentuate every dry period, however short, and will then make good corn crops only in the most favorable seasons, just as a majority of the farms in cultivation over twenty years are now doing.

Every stockman now realizes the importance of retaining the "calf-fat" if he would have a large, thrifty and profitable steer, but there are yet too many farmers all over Kansas who are not yet awake to the fact that their soils are losing their "calf-fat" and that they are now struggling to put meat on a stunted calf in the form of soil depleted of its humus or decaying animal and vegetable matter, caused by continued soil-robbing in the practice of a one-crop system.

Will Mr. Martin be wiser than his neighbors and his generation and retain the "calf-fat" or humus in this soil, so that he may always have such crops as he had this year and last in such seasons as this year and last year? Will he drop the one-crop system year after year and adopt a rotation in which clover is prominent, or if he cannot introduce clover successfully into his rotation, will he sow cow peas, beans or some other legume, immediately after a small grain harvest and plow this under in the fall just before the seed ripens, thoroughly disking, and packing each day's plowing, that the green stuff plowed under may rot promptly and thus maintain buffalo sod conditions? Will he so far as possible plow under all weeds, corn stalks and stubble that in their decay give that vegetable mold which makes the soil loamy and enables the soil to not only hold more water but to hold it longer, instead of burning these each season and thus promoting the tendency of the soil to bake and become hard after heavy rains and to blow more readily when it is dry? Where he does not seed wheat in the corn stubble, will he break down all corn stalks and stubble as early in the fall as possible, using stalk-cutter and disk harrow to mince the stalks and partly cover them with soil, so that these may be partly rotted and fozy instead of dry and hard when plowed under the following spring?

Where the soil is kept loamy by the decay of plenty of vegetable matter it will give good returns with ordinary cultivation, because the soil rich in humus dries out on top after a heavy rain without baking and leaves the surface soil comparatively loose. But in the richest and best of soils good tillage will still pay, and especially prompt surface tillage after every heavy shower up to the time the ears are formed.

Is it not time to call a halt on this suicidal system of continuous cropping without rest or manure that is now and has been practiced all over Kansas for the past twenty-five years? The record of sixty bushels per acre on Mr. Martin's farm on land only two years from the sod, in contrast with the short crops on hundreds of fields which were once just as rich and were this year just as well cultivated, emphasizes this.

Nature is protesting against this system of soil robbery and punishing the robber and at the same time pointing out the remedy in these contrasts made so plain that he who runs may read. Will we not heed? Is it not time to stop the "stunted calf" method of crop-raising and go to work feeding our soils some of the things so essential, that all the elements in the soil may work together in harmony and for the good of the crop and the cropper?

We must sow vegetable matter in our soil to form humus—and eventually nitrogen—as well as seed, if we expect a remunerative harvest.

Continual starvation of work horses, milkers or beef animals is never profitable. The soil will not starve so quickly

Horse Owners! Use



GOMBAULT'S
Caustic Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPPRESSES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. **THE LAWRENCE-WILLIAMS CO., Cleveland O.**

but just as surely as the animal, and the result will as surely be loss.

The soils of Kansas are a rich heritage but there has been a "prodigal" waste. Is it not time that we came to ourselves and commenced the work of building up our soils and thus lay the sure foundation for our future prosperity?

Dr. Bull's Cough Syrup cures a cough or cold in short order. One bottle of this wonderful remedy will effect a cure. It is absolutely the best cough syrup made. Price 25 cents.

It very often happens that the engineer of an exploded boiler never does it again; or if he does, we don't hear of it.

TO CURE A COLD IN ONE DAY
Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. 25c. The genuine has L. B. Q. on each tablet.

It would be a rich joke on the plug tobacco trust if every chewer should suddenly break off the foolish and costly habit of chewing. But the trust-makers are having no sleepless nights on that score.

Vaccination for Blackleg.

The following copy of orders is furnished by the Pasteur Vaccine Co.:

Woodlake, Neb., Oct. 3, 1898.
Pasteur Vaccine Co., Chicago—Dear Sir: Enclosed find \$60, for which please send me Pasteur Blackleg Vaccine at once.

I vaccinated six hundred head of yearlings with your vaccine last spring and so far have had no loss, but I vaccinated fifty head with Vaccine (?) furnished by the government, and have lost five of them (10 per cent.)
Yours truly,
C. A. JOHNSON.
(Signed.)

TELEGRAM.

Woodlake, Neb., Oct. 5th, 1898.
Pasteur Vaccine Co., Chicago—Send Vaccine for 700 calves and outfit.

C. A. JOHNSON.
The remarks of the Pasteur Vaccine Co. on the above are as follows:

"N. B.—The above is particularly interesting. A practical test was made, the cattle were actually exposed to infection and no losses occurred among those treated with the Pasteur vaccine, while 10 per cent. of those treated with a supposed remedy died. If the government preparation had proved of any value, Mr. Johnson would undoubtedly have used it again this season instead of paying for vaccine for about 1,200 calves. It pays to use Pasteur vaccine and have the cattle protected against blackleg."

PATENT secured or money all returned. Search free. Collamer & Co. F St., Washington, D. C.

LIVE STOCK ARTIST.

F. D. TOMSON,

514 Monroe Street, - - Topeka, Kansas.
Breeder's correspondence solicited.

SAVE YOUR ORCHARD BY USING

Jessup Tree Protectors.

Absolute protection from rabbits; keeps off borers and bark-lice and prevents sun-scalds; is indestructible and cheap. Write for circulars and prices.

J. D. BACON CO.,

Agents wanted. Mound City, Kas.



JUST AS NATURAL as the old hen and a good deal more reliable. Doesn't break its eggs or make its chicks lousy. Doesn't stay off the nest and allow the eggs to chill but hatches every egg that can be hatched.

THE PETALUMA INCUBATOR

is absolutely perfect as to incubator essentials—proper application and distribution of heat and moisture, regulation and ventilation. For 50 to 350 eggs. WE PAY FREIGHT ANYWHERE in the U. S. Handsome catalog free. Petaluma Incubator Co., Box 80, Petaluma, Cal.

THE STRAY LIST.

FOR WEEK ENDING OCTOBER 13, 1898.

Dickinson County—R. B. Jacobs, Clerk.

BULL—Taken up by E. A. Sumner, in Hope tp., (P. O. Hope), September 22, 1898, one red and white bull, dehorned, about 3 years old, branded on back with letter L; valued at \$35.

Miami County—L. Flanagan, Clerk.

COW—Taken up by James Shipley, in Sugar Creek tp., September 17, 1898, one red and white cow, about 8 years old, weight about 800 pounds, branded on the left hip with the figures 3 and 5; valued at \$15.

FOR WEEK ENDING OCTOBER 20, 1898.

Lyon County—H. E. Peach, Clerk.

MARE—Taken up by Alfred Keelander, in Pike tp. (P. O. Plymouth), October 8, 1898, one dark bay mare, about 9 or 10 years old, about 16 hands high, one white front foot, white stripe in forehead, weight about 1,000 pounds.

FOR WEEK ENDING OCTOBER 27, 1898.

Allen County—C. A. Fronk, Clerk.

BULL—Taken up by David Catton, in Cottage Grove tp., one red bull, 2 years old, with white on belly and brush of tail, no marks except it be a small notch out of upper side of right ear near the point.

Coffey County—Dan K. Swearingen, Clerk.

COW—Taken up by Bowman Bros., in Lincoln tp. (P. O. Lebo), September 8, 1898, one red cow, 3 years old, dehorned, hole in each ear, slit out, white face, no brands.

CALVES—By same, one red spring heifer calf, with white face, and one black spring heifer calf.

Sumner County—W. E. Wood, Clerk.

HORSE—Taken up by Abe Muma, in South Haven tp., October 4, 1898, one bay horse, left fore foot wire out; valued at \$18.

The California Limited

Via Santa Fe Route, is the best and speediest train to California. Top-ka to Los Angeles in 50 1/2 hours, three times a week. Pullmans, dining car, buffet smoking car with barber shop, and observation car with spacious parlor for ladies and children, vestibuled and electric lighted.

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The Atchison, Topeka & Santa Fe Railway,
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IS THE STANDARD
STEAM PUMPS, AIR LIFTS,
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WRITE FOR CIRCULAR
THE AMERICAN WELL WORKS
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RESERVINE
SAVES THE MEAT.
NO SLIME—NO SKIPPERS.
NO SOUR MEAT. Box, enough for 500 lbs. post-paid, on receipt of 50c.
Preservine Co., 12 Cedar St., N. Y.

GOODHUE
Self-acting, Best Governed, Acknowledged to be the most powerful and durable made. We have everything the farmer needs in this line. **Towers, Tanks and Pumps, Outlets, Grinders, Shellars, etc.**
POWER AND MILLS
Catalogue, full of valuable points, free.
Appleton Mfg. Co.,
19 Fargo St. BATAVIA, ILL.

BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

BLACK LEG
PREVENTED BY
PASTEUR "VACCINE."

Write for particulars, prices and testimonials of thousands of American stockmen who have success fully "vaccinated" their stock during the past three years in Dakota, Nebraska, Wyoming, Colorado, Kansas, Texas, etc.

PASTEUR VACCINE CO., 52 Fifth Avenue, CHICAGO.

MARKET REPORTS.

Kansas City Live Stock.

Kansas City, Oct. 24.—Cattle—Receipts since Saturday, 9,408; calves, 735; shipped Saturday, 2,652 cattle, 474 calves. The market was slow and lower as a rule. The following are representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include DRESSED BEEF AND SHIPPING STEERS, WESTERN STEERS, NATIVE HELPERS, NATIVE COWS, NATIVE FEEDERS, NATIVE STOCKERS.

Hogs—Receipts since Saturday, 5,454; shipped Saturday, 212. The market was 2/4 to 5/8 lower but closed strong. The following are representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 83...251 \$3.60, 66...235 3.61, 82...225 3.57 1/2, 76...227 3.57 1/2, 63...230 3.55, 56...382 3.55, 76...219 3.53 1/2, 67...222 3.5 1/2, 10...199 3.50, 53...234 3.50, 55...231 3.47 1/2, 91...210 3.47 1/2, 57...125 3.45, 33...95 3.40, 88...173 3.37 1/2, 13...96 3.35, 51...115 3.12 1/2, 1...180 2.25.

Sheep—Receipts since Saturday, 5,040; shipped Saturday, 1,084. The market was active and strong. The following are representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 127 Col. lbs., 8 sw. bry., 8 nat. sh., 33 Col. ewes.

St. Louis Live Stock.

St. Louis, Oct. 24.—Cattle—Receipts, 5,800; market steady to 1/8 lower for natives and Texans; native shipping steers, \$5.00@5.50; light and dressed beef and butcher steers, \$3.10 @5.25; stockers and feeders, \$3.10@4.40; cows and heifers, \$2.00@5.10; Texas and Indian steers, \$2.70@4.25; cows and heifers, \$2.00@3.15. Hogs—Receipts, 7,000; market generally 1/8 lower; yorkers, \$3.50@3.65; packers, \$3.60@3.70; butchers, \$3.70@3.82 1/2. Sheep—Receipts, 2,000; market steady; native muttons, \$4.00@4.75; lambs, \$5.00@5.95.

Chicago Live Stock.

Chicago, Oct. 24.—Cattle—Receipts, 22,000; market generally 1/8 lower; beefs, \$3.90@5.75; cows and heifers, \$2.00@4.65; Texas steers, \$2.75 @4.00; westerns, \$3.45@4.50; stockers and feeders, \$3.00@4.50. Hogs—Receipts, 50,000; market slow, weak and 5/8 lower; light, \$3.40@3.80; mixed, \$3.40 @3.80; heavy, \$3.30@3.80; rough, \$3.30@3.40; yorkers, \$3.75@3.81. Sheep—Receipts, 26,000; market weak to 1/8 lower; natives, \$2.90@4.65; westerns, \$3.50@4.55; lambs, \$3.75@4.15.

Chicago Grain and Provisions.

Table with columns: Oct. 24, Opened, High'st, Low'st, Closing. Rows include Wh't-Oct., Corn, Oats, Pork, Lard, Ribs.

Kansas City Grain.

Kansas City, Oct. 24.—Wheat—Receipts here to-day were 609 cars; a week ago, 606 cars; a year ago, 291 cars. Sales by sample on track: Hard, No. 1, nominally 66@67c; No. 2 hard, 64 1/2@65 1/2c; No. 3 hard, 61 1/2@62c; No. 4 hard, 57 1/2@64c; rejected hard, 57c. Soft, No. 2, nominally 71c; No. 3 red, 67c; No. 4 red, 59c; rejected red, 53@57c. Spring, No. 2, 65c; No. 3 spring, 63c. Corn—Receipts here to-day were 33 cars; a week ago, 84 cars; a year ago, 108 cars. Sales by sample on track: Mixed, No. 2, 30 1/2@31 1/2c; No. 3 mixed, 30c; No. 4 mixed, nominally 28@29c; no grade, nominally 27@28c. White, No. 2, nominally 31c; No. 3 white, 30c; No. 4 white, nominally 28@29c. Oats—Receipts here to-day were 5 cars; a week ago, 23 cars; a year ago, 10 cars. Sales by sample on track: Mixed, No. 2, 23 1/2c; No. 3 mixed, 22 1/2c; No. 4 mixed, nominally 21@21 1/2c; White, No. 2, 23@24c; No. 3 white, nominally 22c; No. 4 white, nominally 22@24c. Rye—No. 2, 52@52 1/2c; No. 3, nominally 51c; No. 4, nominally 50c. Hay—Receipts here to-day were 36 cars; a week ago, 76 cars; a year ago, 58 cars. Quotations are: Choice prairie, \$7.00; No. 1, \$6.50. Timothy, choice, \$6.75@7.00. Clover, \$5.50@6.00. Alfalfa, \$4.50. Straw, \$3.50@3.75.

Kansas City Produce.

Kansas City, Oct. 24.—Eggs—Strictly fresh, 15 1/2c per doz. Butter—Extra fancy separator, 21 1/2c; firsts, 20c; dairy, fancy, 17c; store packed, 14c; packing stock, 11c.

Poultry—Hens, 6c; broilers, 8 1/2c; large springs, 7c; roosters, old, 15c each; young roosters, 20c; ducks, 5c; young ducks, 6 1/2c; geese, 4c; goslings, 6 1/2c; turkeys, old, 7 1/2c; young, 7 1/2c; pigeons, 50c per doz. Apples—Home grown, \$2.50@3.00 per bbl. Vegetables—Navy beans, \$1.25 per bu. Lima beans, 4 1/2c per lb. Onions, Red Globe, 40c per bu. Cabbage, home grown, 35c per doz. Celery, 30@45c per doz. Pumpkins, \$1.00 per doz. Squash, 75c per doz. Turnips, 20c per bu. Potatoes—Home grown, 30c per bu. Sweet potatoes, home grown, 35c per bu.

Special Want Column.

"Wants," "For Sale," "For Exchange," and small special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it! SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

RED POLLED BULLS FOR SALE—Eleven head from 5 to 7 months old, weight from 500 to 700 pounds. D. F. Van Buskirk, Blue Mound, Kas.

FOR SALE—A choice lot of Single-comb White Leghorn Cockerels, \$1.00 each, if taken soon. Nothing offered but the best. Elwood Rush, Lockwood, Mo.

WANTED—Experienced salesmen for Lubricating Oils, Greases and Specialties. Do not close arrangements until you get our proposition. References required and given. The Erie Refining Co., Cleveland, O.

BARGAINS in Duroc-Jersey males. Five to eight months old. Two yearling males, cannot use longer. All recorded or eligible to record. Address M. H. Alberty, Cherokee, Kas.

SHROPSHIRE EWES—High grade; seventy five or one hundred now being bred to a registered Shropshire buck. Will be sold cheap. D. D. Perry, Peabody, Kas.

FOR SALE—Five yearling boars. Also fine line of spring boars and gilts by Chief Editor 17995, Teumseh Short-Stop 14750 and High Hadley 20292. Choice blood. Call or write. E. T. Warner, proprietor Franklin County Herd Poland-China Swine, Princeton, Kas.

A WELL-KNOWN MANUFACTURER of Lubricating Oils wishes to correspond with reliable traveling salesmen who are in position to carry an additional line. Exclusive territory given to energetic men. Reference required. Address Lock Box 75, Station D, Cleveland, O.

FOR SALE—Twenty-five choice western yearling steers, tops of herd. C. W. Jenkins, Kinsley, Kas.

FARM FOR SALE OR TRADE ON FARM—160 acres improved creek bottom land. For particulars address F. M. Hopkins, Jefferson, Okla.

FOR SALE—Pure-bred Polands and Berkshires from weanling up, at very low prices. O. P. Udeggraf, North Topeka, Kas.

FOR RENT—Eighty acres of second bottom land, well improved, six miles northeast of Topeka. For particulars, call on or address John Rollheuser, 122 East Fourth St., Topeka, Kas.

POLAND-CHINA PIGS—Three dollars to five dollars each, eligible to record and choice breeding; no feed and must sell. M. C. Hemenway, Hope, Kas.

WANTED, AGENTS—We want an agent in every county in Kansas. Those acquainted with the farmers and threshers preferred. Liberal commission. For particulars, address The Victor Oil Co., Cleveland, Ohio.

LOCKS OF THREE—Two new subscriptions for one year for \$2, and, in addition, a renewal for one year free to any old subscriber who sends two new subscriptions and \$2 in one order. Kansas Farmer Co., Topeka, Kas.

TEN THOUSAND MAMMOTH BLACK TWIG apple trees, six feet high, for sale, two years old. G. S. Sweet, Colun bus, Kas.

ALFALFA SEED WANTED by F. Farteldes & Co. Lawrence, Kas. Correspond with them.

SHORT-HORNS FOR SALE—Forty-six cows and 8 heifers, Crulokshank, Young Marys, Rose of Sharon and others; an extra lot. Nearly all were sired by that grand Crulokshank Royal Prince 1006-6. Six bulls ready for service, sired by Young Mary bull, Glendon 118371. Parties met by appointment. Theodore Saxon, St. Marys, Pottawatomie Co., Kas.

FOR SALE—Three herd boars which have proven great sires, but not yet sired. These Poland-China boars: Look Me Up 2229 by Look Me Over, 2 years old; Hadley Jr.'s Equal 19115 by Hadley Jr. out of Spot H. 2d, 18 months; and King Teumesh 23307 by King Perfection and out of Queen Teumesh, 5 years old. Address, E. H. Wheeler, Lawrence, Kas.

WE WANT RELIABLE MEN in every locality at once to sell to farmers, threshermen and millers our high-grade lubricating oils, greases and specialties. Make an excellent side line for farm implement dealers. We are manufacturers, and with our instructions an inexperienced man can become an expert oil salesman. Write at once for terms. Malone Oil Company, Cleveland, Ohio.

SEALED BIDS will be received by the undersigned for proposals looking to the purchase of the Eudora Creamery plant, located in Eudora, Douglas county, Kas., with skimming station in Sibleyville, Kas. Bids will be opened at noon, Saturday, December 3, 1898. The right is reserved to reject any or all bids. Wm. Bowman, Secretary, Sibleyville, Kas.

DAIRY WAGON FOR SALE—Good two-horse covered dairy wagon, custom made. A. E. Jones, Topeka, Kas.

HIGH-GRADE Shropshire rams, lambs and yearlings. E. W. Melville, Eudora, Kas.

640 ACRES ARKANSAS LAND—Two miles from station, to trade on Kansas farm. Will pay balance or assume incumbrance. E. W. Melville, Eudora, Kas.

BLOSSOM HOUSE—Opposite Union depot, Kansas City, Mo., is the best place for the money, for meals or clean and comfortable lodging, when in Kansas City. We always stop at the Blossom and get our money's worth.

RICHLAND HERD—I want to close out the entire herd of Poland-China sows and herd boars, including Kiever's 1st Model 18248 S., What's Wanted Jr. 2d 18534, and B.'s Black U. S. 19657. The breeding and quality of these boars ought to suit anybody. Come and inspect, the only way to get suited. F. W. Baker, Couchell Grove, Morris Co., Kas.

MACLEAN FARMERS' SUPPLY CO., Kansas City, Mo. (Between Union Depot and Stock Yards.) Sell machinery and other supplies to farmers direct, saving the consumer middlemen's profits. Send now for 1908 Spring Price List.

BERKSHIRES—Choice bred sows by Imported Lord Comely, and boars ready for service. Wm. B. Sutton & Son, Kas.

SHORT-HORN BULLS—Crulokshank-topped, for sale. Choice animals of special breeding. Address Peter Slim, Wakarusa, Shawnee Co., Kas.

BERDEEN-ANGUS BULLS—Three individuals of serviceable ages; registered. Wm. B. Sutton & Son, Russell, Kas.

FOR SALE—Thirteen fine Poland-China boars. Call on or address H. W. McAfee, Topeka, Kas. (Farm three miles west of Kansas avenue.)

WRITE TO ALEX RICHTER—Hollywood, Kas. How to sub-irrigate a garden, etc., and cost of same. Send him the size or dimensions of your garden, and he will give full information.

COTTSWOLD RAMS FOR SALE—W. Guy McCandless, Cottonwood Falls, Kas.

HEREFORD CATTLE—Breeding stock for sale. Archibald cattle a specialty. Visitors welcome. J. C. Curry, proprietor "Greenacres Farm," Quenemo, Osage Co., Kas.

WANTED TO EXCHANGE—The pure-bred Crulokshank bull, My Lord 115563, bred by Col. Harris; sire Imp. Spartan Hero 77933; dam Imp. Lady of the Meadow (Vol. 80, p. 615), for a pure-bred Crulokshank bull—can't use him any longer in my herd. H. W. McAfee, Topeka, Kas.

TO STOCKMEN—Feed Mills and Corn-Shellers used as samples and at fair, special bargains. Write or see us. Sandwich Mfg. Co., 1205 Union avenue, Kansas City, Mo.

WANTED—One or two reliable salesmen to represent an old established firm manufacturing a profitable and salable line of staple products. References required. Address "Manufacturer," Commercial Bldg., Cleveland, Ohio.

WE MAKE A GOOD FARMER'S SPRING WAGON, two lay-cacks and let-down end-gate, for \$55. Warranted. We will ship on approval to responsible parties. Kinley & Lannan, 424-426 Jackson street, Topeka, Kas.

\$50 Agent's profit per week sure. Work for us and get \$1.50 outfit, side line; terms and premiums FREE. Sells at every house. Try us. CHIDESTER & SON, 28 Bond Street New York.

R. S. COOK, WICHITA, KAS., Poland-China Swine BREEDER OF

The Prize-winning Herd of the Great West. Seven prizes at the World's Fair, eleven firsts at the Kansas District fair, 1898; twelve firsts at Kansas State fair, 1894; ten first and seven second at Kansas State fair, 1895. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 2341, Black Joe 23908, World Beater and King Hadley. For Sale, an extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra large, richly-bred sows. Inspection or correspondence invited.

200 PURE-BRED POLAND-CHINA SWINE FOR SALE 200

By GEO. CHANNON, Hope, Dickinson Co., Kas., Breeder of Poland-China Swine and Short-horn Cattle. I must reduce my herds to the minimum on account of short feed and insufficient accommodations for winter, therefore will sell at prices that should be a big object to purchasers. My offering consists of tried brood sows, gilts and boars, all ages. Will sell singly or in lots to suit. The young stock is by my herd boars Prince Bismarck 1867, Seldom U. S. 18218, Duke of Weston and Corwin. Come now and get a bargain. Also, for sale thirty extra fine young Short-horn bulls, sired by Glendower 10338. None better in Kansas.

Sir Charles Corwin 14520 and Harry Faultless, Jr. HEADS OF HERD.

We have been in the show ring for the last three years, always winning the lion's share of the premiums. If you want prize-winners and pigs bred in the purple, we have them. All ages of Poland-China swine for sale. Write or come and see us. We have an office in the city—Rooms 1 and 2 Firebaugh Building. ELM BEACH FARM, Wichita, Kas., C. M. IRWIN, S. C. DUNCAN, Supt.

Nelson & Doyle

Room 220, Stock Yards Exchange Building, KANSAS CITY, MO., Have for sale at all times, singly or in car lots... Registered Herefords and Short-horns, Cross-bred Hereford, Short-horns and grades of other breeds. Bulls and females of all ages.

Stock on Sale at Stock Yards Sale Barn, Also at Farm Adjoining City. N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

ELI ZIMMERMAN,

Proprietor of the Brown County Herd of Poland-China Swine and General Live Stock Auctioneer, is prepared to make sales anywhere. He is a first-class salesman and keeps posted on the prices of live stock and the best time when to sell and when not to sell. Registered Poland-China Swine of both sexes of the best strains of blood always on hand. Address him at

FAIRVIEW, KANSAS.

THE KANSAS CITY STOCK YARDS

—ARE THE— FINEST EQUIPPED, MOST MODERN IN CONSTRUCTION AND AFFORD THE BEST FACILITIES For the handling of Live Stock of any in the World.

THE KANSAS CITY MARKET

Owing to its Central Location, its Immense Railroad System and its Financial Resources, offers greater advantages than any other in the Trans-Mississippi Territory. It is the Largest Stocker and Feeder Market in the World, while its great packing house and export trade make it a reliable cash market for the sale of Cattle, Hogs, and Sheep, where shippers are sure to receive the highest returns for their consignments.

Table with columns: Cattle and Calves, Hogs, Sheep. Rows include Official Receipts for 1897, Sold in Kansas City 1897, C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST.

The Poultry Yard

Conducted by C. B. TUTTLE, Excelior Farm, Topeka, Kas., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the Kansas Farmer. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

KANSAS STATE POULTRY ASSOCIATION.
President, A. M. Story, Manhattan.
Secretary, J. W. F. Hughes, Topeka.

Poultry Show—At Topeka, January 9 to 14, 1899 C. H. Rhodes, judge.

INCUBATORS VS. HENS.

Only a few short years since, and the appliances considered necessary for breeding and rearing poultry were simple indeed—an old box in some corner, a sitting of eggs and a broody hen—these were the beginning. After this one grand effort—for the farmer would often talk all day of having "set a hen"—no further attention was often given to biddy, she being left to shift for herself until the time for her to bring off her brood. When the chicks were hatched, the farmer's wife would then take an interest, and throw them, perhaps once a day, perhaps twice, a handful or so of corn meal dough. If it fell in the filth and dirt, it mattered little; the chicks got what they could and the hen took the rest.

The result of this primitive method of feeding and raising chickens was the "survival of the fittest." But primitive though it may have been, it has laid the foundation for many sound teachings in modern poultry culture. The old, careless method of hatching and raising chickens was pursued until the modern incubator was invented. Those who still pursue the old plan of hatching with hens—and there are thousands who do—have learned many valuable lessons from the incubator. And, without doubt, the time is not far distant when every farmer or farmer's wife who pretends to raise chickens will own and operate an incubator and brooders.

But the question is often asked: "Do the eggs hatch as well as under hens, and are the chicks as strong and healthy? And, if raising thoroughbred or standard-bred poultry, can it be done to as good advantage, and the stock be as high in standard points when raised by artificial process as in the natural way?" To which I answer, unhesitatingly, yes. If there is any difference, it is all in favor of the incubator chick.

The idea that this was not so, was held and ventilated quite thoroughly in the poultry press by a number of prominent breeders a few years ago, and at first much to the disadvantage of the incubator. Those who knew the fallacy of the argument offered by those of this view, at once attacked the position, and not only in argument, but in reality, proved beyond a doubt that the birds hatched in incubators and raised in brooders were able not only to compete with those raised by hens, but to carry off first honors over them, under the very judges who were talking against them.

THE GREAT ADVANTAGES

the breeder or grower of poultry who uses an incubator has, are that, in the first place, he can make the best use of his eggs in January and February, before the egg season opens up, if breeding fancy stock, and thereby get his chicks started so that they are well matured and ready to command the best prices for the fall and early winter shows, when they are most in demand, and bring him the highest price at the least expense for food and care.

If on the farm, and one wishes to raise chickens for the early market, the incubator will save a great deal of worry and annoyance caused by the trouble always experienced in trying to raise a lot of chickens for early market by the old way, and "early market by the old way" means, at the best you can possibly do, to have a few chickens large enough to kill by the Fourth of July or the first of August, when they are probably worth 25 or 30 cents apiece, if they weigh two and a half or three pounds.

"Early market" by the incubator and brooder route means to have young chicks ready for broilers, i. e., to weigh from one and a half to two pounds at ten to twelve weeks by the first of March and during the spring months, when they bring, in any of the large cities, from 35 to 50 cents a pound, according to size and time at which they are marketed.

Again, the incubator is always ready to sit; no waiting for it to get broody. It does not leave the nest and spoil the eggs when the hatch is half or two-thirds done; it does not get fussy and break

the eggs, daubing and spoiling what it does not break; and last, but not least, by any means, the chick hatched in an incubator and raised in a brooder is absolutely free from lice, if kept away from the old fowls. This one point alone ought to give it a place in every poultry yard.

P. H. Jacobs, editor of the Poultry Keeper, writing under the head of "The Value of Early Chicks," says: "It requires only a glance to show that the profit is in the early chicks, and as we cannot procure early chicks with any degree of certainty, or in any considerable numbers, by the use of hens, owing to human ingenuity not as yet being sufficient to make hens sit until they are inclined to do so, the true value of an incubator can only be rightly estimated when we consider that it enables us to hatch at any time of the year"—and in any numbers, Mr. Jacobs might have said.

The care of a good incubator, holding, say, 200 eggs, is not to be compared with the great amount of trouble hens enough to do the same work would be. Allowing fourteen eggs to a hen, it would take fourteen hens to cover 200 eggs. From December to March it would take a large flock of hens to supply fourteen sitters at a time. When once a sitter, each hen would have to give up from nine to ten weeks of her time to hatching out and hovering her chicks. This plan, if not entirely impracticable, is certainly expensive. It has been repeatedly demonstrated, throughout the country, that early spring chickens cannot be successfully and profitably raised in large numbers by the hen method.

There are many incubators now on the market; some are good, and some are very bad. There are a few first-class machines. Manufacturers of first-class incubators put on the market a perfectly reliable machine, which will hatch a large percentage of the fertile eggs placed in it, but they cannot supply brains, and above all, common sense for each purchaser. Any well-made, first-class machine will hatch eggs—how many depends on the operator. Seventy to 75 per cent. of the fertile eggs should be considered a good fair hatch, though many do much better than this. Hatching chickens artificially is not child's play, nor is it as simple a matter as many manufacturers would have us suppose. Yet there is nothing difficult or that may not be learned by any one who exercises good sound judgment.

Remember, now, I am talking on the practical part of the farmer's side. I do not mean that you should go into the broiler business on a wholesale scale, but that you keep just the number of chickens you usually do. Keep the right kind—not thirty hens and twenty scrub roosters, which cost twice as much to feed as the hens and give you no return—but keep a flock of about fifty hens of a good breed, that develop quickly and have good size and a clear yellow skin. Plymouth Rocks or Wyandottes are good, the nearer pure-bred the better. Give them good, warm quarters (which does not by any means mean an expensive poultry house), feed and care for them properly, and you can make a success.

Give the incubator a fair trial, which means that you must have fresh, fertile eggs from healthy, vigorous stock. No other kind will hatch under any conditions. There are more incubators condemned because of their failure to hatch eggs which the operator has purchased from some store or some unreliable neighbor, that would not hatch under any circumstances, than from any fault of the machine. Do not expect the machine to do all the work. You must do your share. The machine cannot think. Use good common sense and study the machine and the development of the chick in the egg. Compare it with nature's process, and you will soon learn all there is about it.

No one can dispute the fact that the farmer can make more clear money out of his poultry, if intelligently managed, than from any other department of farm work, time and money invested taken into consideration.

A GOOD TIME TO BEGIN.

A person supplied with a good incubator and one or two good brooders, according to number of chicks to be raised, should begin hatching as soon after November 1 as possible. The incubator should be located in the best place available; a good dry cellar or cave is the best place, the temperature being more even in such a location. Next would come a basement and unused room in the house, in the order named. Never try to operate a machine in a room where there is fire through the day. If no better place offers, a closely-built barn, hen house or outbuilding can be used.

A modern brooding house, heated with hot water, is a nice thing to have, but

A Suffering Soldier.

This veteran fought for his country; suffered untold hardships, and returned with health shattered. Many a brave soldier has the same history. To-day this one rejoices in a new-found strength and tells his experience to benefit others.

No man is better known and liked in that rich tier of Illinois counties, of which Peoria is the centre, than genial Chester S. Harrington, of Princeville, Ill.

Mr. Harrington is a veteran of the late war. Like many another brave soldier, he suffered not only during that service, but for years afterwards from diseases contracted then.

For years his health was shattered; his sufferings increased. He was unable to gain relief, but now he tells a story which is of profit to many:

"I served three years in the 124th Illinois, enlisting at Kewanee, Ill.," said he. "I was in Libby Prison and suffered like many another Northern soldier."

"The strain of army life did its work in undermining my health, although the collapse did not come for some time after."

"For fifteen years I suffered from general debility and nervousness so badly that I could not sleep. Indigestion resulted and my misery increased."

"My eyes began to fail, and as my body lost vitality my mind seemed to give way. I could scarcely remember events that happened but a few weeks before."

"For two years I was unfitted for business. I was just able to creep around during part of this time, and there were many times when I could not get up."

"My brother is a doctor, but all his efforts to help me failed to give any relief."

"I tried a number of remedies without

avail. Finally, having read articles regarding cures that had been effected by Dr. Williams' Pink Pills for Pale People, I decided to try them. That was in 1896. I bought a box and took the pills according to instructions.

"Four days later I had the happiest hours I had known for years. That night I went to sleep easily and slept soundly as a child and awoke refreshed."

"After I had taken four boxes of the pills, I found that I was cured and had also increased 27 pounds in weight."

"This greatly surprised my friends, who thought my case was a hopeless one. I began my work again and have continued ever since in excellent health."

"Another valuable gain to me was, that while I was taking these pills I had been cured of the smoking habit, which had formed when I was a boy and had clung to me all these years. The craving for tobacco left me and I have never experienced it since."

"I cannot say enough for these pills and have recommended them to many."

To verify this statement Mr. Harrington made affidavit to its truthfulness before Lincoln M. Coy, Notary Public.

Dr. Williams' Pink Pills for Pale People strike at the root of disease by acting directly upon the impure blood. Their power is marvelous and many wonderful cures have been made. Druggists consider them a potent remedy, and all sell them.

many have been successful in placing the brooders in a well-lighted room, poultry house or barn. One most essential thing with young chicks or ducks is plenty of sunlight. See, then, that wherever the brooders are placed they have the full benefit of all the sunlight possible.

With the incubators started the first or second week in November, by March 1 the chicks would be from twelve to fourteen weeks old, and ought to weigh from two to two and a half pounds each, if pushed from start to finish, and be in a condition to command the highest prices. If facilities are sufficient, the incubator can be kept running right along, hatching a brood every four weeks, and in this way a continual income for several months may be realized from broilers alone.

Inquiry Corner.

Under this head we will answer free, each week, such inquiries as are received pertaining to any point in poultry culture. We invite inquiries and answers from all our readers.

ROUP.

Can you tell me what ails my turkeys, and what to do for them? They first act strangely, then they wiggle their heads around; heads swell some, live a day or two and die. Another complaint: Their crop seems to swell until it is as large as a pint or a quart cup; it then goes down some. It does not kill any of them, and they appear well otherwise.

Hunnell, Kas. W. W. WICKS.

Answer.—From the very incomplete data here given it is a very difficult matter to diagnose the case sufficiently to prescribe a remedy. If correspondents would only be more particular in describing diseases and symptoms, matters would be simplified greatly. I am glad to help those in trouble, but do not feel as though it is fair to make me guess at the disease, and then suggest a remedy blindly. I like to see the game I am shooting to kill.

In the first query, I think I see the symptoms of swelled head, a disease sometimes prevalent among turkeys, corresponding to roup in chickens. The turkeys have probably taken cold, caused doubtless by dampness or draughty roosting places, or perhaps both. I would suggest the following treatment, as given by Major Roessle, in Country Gentleman:

"Separate all sick fowls from the well ones, giving them good, warm, dry quarters; wash their heads with warm water and castile soap, and then anoint them with camphorated oil. If they run at the nostrils, inject the oil with a 5-cent oil-can. They should eat well unless the disease has progressed too far."

Another treatment, as given by editor

THE IMPROVED VICTOR Incubator
Hatches Chickens by Steam. Absolutely self-regulating. The simplest, most reliable, and cheapest first-class hatcher in the market. Circulates FREE. GEO. ENTEL CO., QUINCY, ILL.

A Great Mistake

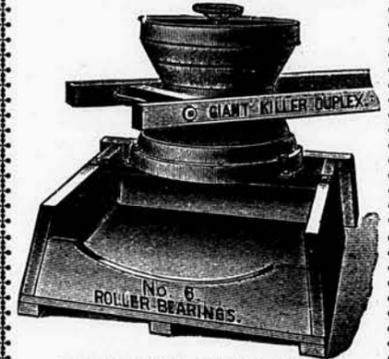


It would be to purchase an incubator or brooder without first getting a copy of our 148-page catalogue. It costs 5c, but is worth a dollar to you for the poultry information it contains, to say nothing of the pointers it gives you. Send for it at once.

DES MOINES INCUBATOR CO., Box 53, Des Moines, Ia.

Giant Killer... Duplex Grinder.

A BIG MILL ON A BIG BOX.
Roller Bearings. 3,000 Sold Last Season.

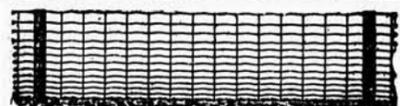


IMMENSE CAPACITY.

Equal to a 25-inch double-gear machine. No gearing to bind or break. All power applied direct to duplex burrs. Double auger force feed and steep cone. Corn and cob will not lodge or "hang up" in hopper. Warranted under like conditions to grind one-third more than an 18-inch double-gear mill, and furnished with a feed-box in proportion to capacity. Write

DAVIS GASOLINE ENGINE WORKS CO., Waterloo, Iowa.

We ship from Omaha, Neb.; Kansas City or St. Louis, Mo.; Bloomington, Ill.; Indianapolis, Ind.; Minneapolis, Minn.



"HELLISH CONTRIVANCES"

Is what an Indianapolis editor calls barbed wire fences. They are not cheap, effective, durable nor humane. Buy the epitome of these virtues. Page Woven Wire Fence Co., Adrian, Mich.

of Massachusetts Ploughman, is as follows:

"When fowls are in the advanced stages of roup, the best remedy is the hatchet, as they can seldom be cured, although in the early stages they may be cured by taking, according to Bauscher's method, a small spring-bottom oil-can and injecting in their nostrils and roof of their mouth a little kerosene oil; if heads are swelled, anoint the parts swollen with sweet oil and alcohol, equal parts, each day. Add some good condition powder to their morning mash. Put about one-half teaspoonful of aconite to each quart of their drinking water. Keep them in good, dry, comfortable quarters, with an abundance of sunshine in their room, and it should be well littered with straw or leaves, which must be changed frequently. Their drinking vessel should be cleansed with boiling water, as this is absolutely necessary to accomplish a speedy cure, not forgetting to remove all sick fowls from those not affected, to prevent spreading of disease."

"Another remedy which is said to cure roup is the following: When a chick first shows symptoms of roup, open its mouth and, with a small glass syringe, insert into the throat as far as possible a little finely-pulverized alum. If the disease is in an advanced stage, and the head begins to swell, anoint the swollen parts with common vaseline, also insert some of the vaseline into the nostrils with a small feather. Feed on a liberal supply of bread and milk well seasoned with pepper; to one teacupful of soft food, such as bran or oats, mix one teaspoonful of castor oil. Do not neglect to place those affected in a dry, warm place."

These remedies apply to chickens as well as turkeys, and I have been more particular to go into details, as this is the time of year the disease is most prevalent. Whatever is done must be done quickly, as the disease makes rapid progress, corresponding to diphtheria in the human family, and when canker once sets in, the hatchet is the best and surest remedy. Burn or bury deeply all dead fowls.

CROP-BOUND.

The second trouble mentioned by our correspondent is probably caused by the fowl becoming crop-bound. Sometimes an operation is necessary to relieve the patient. Try injecting warm water down the throat and then kneading the crop until it is soft, and the food passes on to the gizzard to be digested. If an operation is deemed necessary, remove a few feathers and with a sharp knife cut an opening through both the outer skin and the walls of the crop large enough to insert the fore finger; remove the contents, wash out with warm water with a small syringe, and sew up both cuts with silk or common white cotton thread. Ordinarily two or three stitches will be sufficient. Give warm coop and feed on soft mashes for a few days.

POULTRY SUPPLIES.

The Peerless brand of Crushed Oyster Shells, Bone Mills, Tarred Roofing, poultry foods and remedies, Poultry Netting, etc., etc. Write for price list to T. Lee Adams, 417 Walnut street, Kansas City, Mo.

HOOK ON-CUT OFF. The easiest-working, closest-cutting, simplest, strongest and handiest dehorner is the latest IMPROVED CONVEX DEHORNER. Never crushes the horn nor pulls it apart. Made on an entirely new principle. Catalogue free. WEBSTER & DICKINSON, Box 60 Christiansa, Pa. Western trade supplied from Chicago salesroom.

DO YOUR OWN GRINDING with one of our FARMER'S FRIEND Sweep Feed Mills. The farmer can save mill tolls and save cost of hauling. It has adjustable force feed, steel ball bearings, burrs 30 in. diameter and self-sharpening. Write for prices. KELLY & TANEYHILL, Waterloo, Ia.

OSGOOD STANDARD SCALES. Full Descriptive Catalogue FREE. OSGOOD SCALE CO., Binghamton, New York. Good agents wanted in unoccupied territory.

Large inside burr revolves twice to sweep's one. Ordinary length sweep. DAIN DOUBLE MILL. Sold under an absolute guarantee to do double the amount of work of any other mill of same size or money refunded. Write for circulars and prices. DAIN MFG. CO., Carrollton, Mo.

MICA AXLE GREASE. It's easy to haul a big load up a big hill if you grease the wagon wheels with MICA Axle Grease. Get a box and learn why it's the best grease ever put on an axle. Sold everywhere.

Port Arthur's Prosperity Is Based on Business

Over 12,000 tons of export and import freight now being handled over its docks per month.

Three steamship lines now running to British, Continental and Mexican ports.

Over one-half the canal completed to a depth of sixteen feet.

One hundred thousand dollars' worth of property sold in March.

Go to Port Arthur and see what the backing of a 1,227 mile trunk line means.

For information write to

F. A. HORNBECK, General Manager Port Arthur Townsite Co., KANSAS CITY, MO.

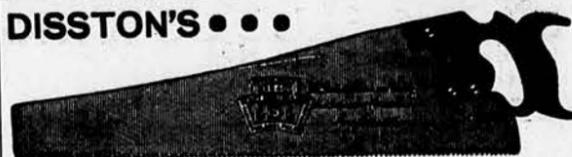
GET THE DOLLARS OUT OF GRAIN. Stock digest ground feed much better than whole. The Farmer's Friend SWEEP FEED MILL. This superior to any other made. Has adjustable force feed, steel ball bearings, burrs 30 in. in diameter, self-sharpening. Write for prices. KELLY & TANEYHILL, Waterloo, Ia.

We make Steel Windmills, Steel Towers and Feed Grinders and are selling them cheaper than the cheapest. Our productions are standards; are first-class in every respect and are sold on trial. Send us a postal and we will tell you all about them. CURRIE WINDMILL CO., Manhattan, Kas. AGENTS WANTED.

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ADVANCE FENCE. It is as good as the best woven wire fence made and this plan of selling it makes it cheaper and better in every way than the use of any hand fence machine made. It is all interwoven—there are no loose ends. The wires can not slip. It can not kink or sag and takes up its own expansion and contraction. Don't buy until you get our new circulars and special discount to farmers. ADVANCE FENCE CO. 18 OLD ST. PEORIA, ILL.

DISSTON'S

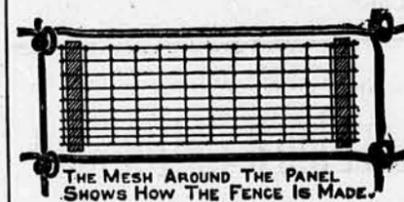


It will pay you to buy a new saw with "DISSTON" on it. It will hold the set longer, and do more work without filing than other saws, thereby saving in labor and cost of files. They are made of the best quality crucible cast steel, and are FULLY WARRANTED. For sale by all dealers. Send for PAMPHLET OR SAW BOOK, mailed free. HENRY DISSTON & SONS, Philadelphia, Pa.

THE "DEWEY" AUTOMATIC STOCK WATERER.



Every objection to hog waterers overcome. Valve eight inches in water; can not freeze; has a brass float which can not rust, water log, or allow mud to collect under it. Attachable to tank, barrel box or pipe. Will water three hundred hogs a day, any number of sheep, calves, ducks, horses and cattle. Sent on trial, express prepaid, to be paid if satisfactory. Costs nothing to try. Send for one. Our offer means nothing. Costs twice as much to manufacture as any other; retails the same, \$6.00. Address, STOCK FOUNTAIN CO., LAKE CITY, IOWA.



THE MESH AROUND THE PANEL SHOWS HOW THE FENCE IS MADE.

PERFECT FARM FENCE

Made of best doubly annealed galvanized steel wire. Top and bottom wires No. 9. All other wires No. 11. We use the strongest stay wire in any woven wire fence on the market—hence more strength and durability.

Our LOOP KNOT (entirely new feature, patented) provides perfect expansion and contraction and keeps it tight at all temperatures. Our Loop Knot being uniformly distributed throughout each foot of fence is, in effect, the same as placing one coil of a spiral spring in every foot throughout the entire length of fence, BESIDES GREATLY STRENGTHENING IT. Our Loop Knots make the fence plainly visible and impossible for stay wire to slip or give. It is Hog tight and Bull strong. Will turn all kinds of stock without injuring them.

Where we have no agents a liberal discount will be given on introductory order. Reliable farmer agents wanted in every township. Pittsburg Woven Wire Fence Co., Pittsburg, Pa. Send for catalogue and prices.

LIGHTNING HAY PRESS. STEEL. Special prices. Kansas City Hay Press Co., 407 Mill St. Kansas City, Mo.

GOOD WHEELS. MAKE A GOOD WAGON. Unless a wagon has good wheels it is useless. THE ELECTRIC WHEELS are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any axle. They can't get loose, rot or break down. They last always. Catalogue free. Electric Wheel Co., Box 46, Quincy, Ill.

20 BUSHELS MORE PER DAY is what you can husk and save your hands by using Kees Improved Corn Husker. See your dealer or sent postpaid on receipt of 50c. (No stamps.) Address, F. D. KEES, Beatrice, Neb.

Notice.

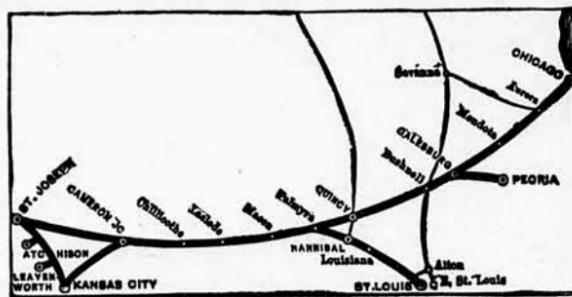
All persons interested will take notice that my petition is on file in the office of the Shawnee county, Kansas, Probate court, asking for authority to sell the following described real estate situate in Shawnee county, Kansas, belonging to the estate of William Firey, deceased, for the purpose of paying the debts of said estate and the expense of administration, to wit: Lot 368 Taylor street, Topeka, Kansas. Lots 651 and 653 south Kansas avenue, Topeka, Kansas. North 25 feet of lot 108 and south 25 feet of lot 110 Jackson street, North Topeka. Lots 49 to 61 inclusive Jackson street, North Topeka, Firey's addition. One-half interest in lot 123 (43 feet) Central avenue, Firey's addition, North Topeka. One-half interest in lot 31 (25 feet) and fractional 33 (17 feet) Central avenue, Wineberger's addition, North Topeka. Said petition is set for hearing at the office of the Probate Judge, in the city of Topeka, said county, on Wednesday, the 2d day of November, 1898, at which time and place you can make known any objections you may have to the granting of such order of sale. Dated October 18, 1898. J. B. McAFEE, Administrator of said estate.

Administrators' Sale of Real Estate.

Pursuant to the will of the late David R. Youngs, I offer at private sale all the real estate belonging to his estate, as follows:

- 1. The "Home Place," w. hf. of nw. qr. sec. 26, and e. hf. of ne. qr. sec. 27, t. 12, r. 15, 160 acres. Contains good house, barn and sheds, outhouses, corrals, wells and cisterns, wagon scales, three orchards, and all appurtenances constituting a first-class farm. About 130 acres plow land, 12 acres clover, 5 acres alfalfa, remainder pasture land, timber land and creek, all well and conveniently fenced. Price, \$3,000. Terms, one-third cash, one-third in two years and balance on long time. Interest on deferred payments 7 per cent. per annum, secured by mortgage.
- 2. Also the e. hf. of nw. qr. of said sec. 26 80 acres. About 40 acres first-class plow land and about 40 acres hay land. Well and separately fenced. Price, \$3,200 Terms same as above.
- 3. Also about 101 acres of pasture land in one body, well fenced and well watered, being nw. qr. of ne. qr. fl. and sw. qr. of ne. qr. fl. of said sec. 27, and about 34 acres off the east side of the nw. qr. fl. of said sec. 27. Price \$20 per acre. Terms same as above.
- 4. Also about 101 acres of good prairie hay land, being w. hf. of nw. qr. fl. of said sec. 27, and about 34 acres off the west side of the e. hf. of nw. qr. fl. of said sec. 27. Price \$25 per acre. Terms same as above.
- 5. All of the above described land lying contiguous and constituting one large and complete farm and situated about seven miles southwest of Topeka near the Burlingame road, will be sold together for \$15,000, on the same terms already stated.
- 6. Also 42 acres in se. qr. of sec. 9, t. 12, r. 15, near Six Mile creek. Mostly first-class plow land; well fenced. Small house and some other improvements. Price \$1,250. Terms same as above.

For further information write or call on the undersigned at his office, Bank of Topeka building, Topeka, Kas. CHAS. F. SPENCER, Administrator, with will annexed, of said estate.



Burlington Route. BEST TRAINS VESTIBULED "ELI" TO CHICAGO. VESTIBULED LIMITED TO ST. LOUIS. FREE CHAIR CARS, LATEST PATTERNS OF SLEEPERS. W. WAKELEY, G. P. A., St. Louis, Mo. J. C. RAMHALL, T. P. A., St. Joseph, Mo.

ALFALFA SEED FOR FALL SOWING

McBETH & KINNISON, GARDEN CITY, KANSAS,
Wholesale and Retail Seedsmen.

Send for Our Free Manual on the King of Forage Plants.

PUBLIC SALE

I will sell at Public Auction, to the highest and best bidder, at my farm, five miles southeast of Topeka, on

SATURDAY, NOV. 12, 1898.

SEVENTY HEAD OF THOROUGHbred HOGS—Thirty-five sows, some bred and some not; thirty-five head of males from five to twenty-four months old. Both Berkshire and Poland breeds. These hogs are all first-class in every respect.
TERMS—Sums of \$35 and under cash; over \$35 a credit of three months' time, on approved note with 8 per cent. interest from date; 5 per cent. off for cash on time sales.
Also will sell at same time: One English Shire stallion, 12 years; one Hoosier wheat drill; one riding cultivator; one four-horse down-power and grist mill, on twelve months' time without interest. Sale at 10 a. m. sharp. Good lunch at noon.

COL. S. A. SAWYER, Auctioneer.

V. B. HOWEY, Prop'r.

LIVE STOCK AUCTIONEERS.

GEORGE W. BARNES, Auctioneer, Valencia, Kas. Lowest terms. Extensive experience both as breeder and salesman. All correspondence given prompt attention.

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AUCTIONEER BURLINGAME, KAS. THIRTY years' experience. Extensive acquaintance. Correspondence solicited.

J. N. HARSHBERGER,

LIVE STOCK AUCTIONEER, LAWRENCE, KAS. 12 years of experience. Sales made anywhere in the United States. Terms the lowest. Write before claiming date.

S. A. SAWYER, FINE STOCK AUCTIONEER—S. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Compile catalogues. Retained by the City Stock Yards, Denver, Col., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle in America. Auction sales of fine horses a specialty. Large acquaintance in California, New Mexico, Texas and Wyoming Territory, where I have made numerous public sales.

BELGIAN HARES.

Thoroughbred high-grade stock. Any farmer can raise them and the flesh is in constant demand at fancy prices. Write for circular. **LANPHERE BELGIAN HARE CO.** Kansas City, Kas.

ITALIAN BEES.

Bred from queens imported from Italy. Full colonies; two, three and four frame nucleus shipped anywhere and safe arrival guaranteed. We ship Bees any time from March to November. Queens, hives and supplies generally.

A. H. DUFF, Larned, Kas.

Berkshires at Your Own Price.
(I'M GOING TO MOVE.)

Forty head, in quality, size and health, second to none. Young boars and gilts 200 to 250 lbs each. No better breeding. Three months pigs, 80 to 100 pounds each. \$10 per pair. Write me quick, I can suit you.

Box 131, GEO. PURDY, Ft. Scott, Kas.

ANNUAL PUBLIC SALE

POLAND-CHINA SWINE

To be held at Olathe, Kas., on the first day of November, 1898. The produce of the best boars and sows. I have two thousand catalogues giving full information. Drop a card for one catalogue, quick. Give your address full and plain.

W. B. GOODE & SONS, Lenexa, Kansas.

Public Sale of Poland-Chinas!

ROSE CREEK FARM

On Wednesday, November 2, 1898.

Sixty-five head of selected boars and choice gilts eight to fourteen months old. Take Rock Island or U. P. railroad for Belleville, Kas. Send for catalogue.

H. WOODFORD, Mgr., Chester, Neb.

W. E. SPEARS

RICHMOND, KAS.

For Sale—22 Head of Herefords.

Five registered cows—Lord Wilton and Anxiety—bred to Dial 3d No. 71453; fifteen grade cows, all bred; one yearling bull, Lord Wilton and Anxiety; one five-year-old bull, sired by Banker No. 1324, by Illinois No. 920 (5395).

WRITE FOR PARTICULARS.

GREAT Short-horn Cattle Sale!

Don't fail to attend the annual sale of Short-horn Cattle, to be held at

Kansas City, Mo., Nov. 22, 1898.

—BY—
GEO. BOTHWELL,
Of Nettleton, Missouri,

BREEDER OF

THICK-FLESHED, EARLY-MATURING SHORT-HORN CATTLE.

Watch for further announcements.

GREAT BERKSHIRE SALE

At SEVEN OAKS STOCK FARM,

New Sharon, Iowa, Nov. 11, 1898, 1 P. M.

On above date we will offer at public sale about sixty head of large English Berkshire boars and sows, old and young. Our herd is founded on the best English and American blood, that of the English Windsors, Highcleres, Royal Hayters, and allied strains, mingled with the blood of America's greatest boar, Longfellow, through his most noted sons and daughters, such as King Longfellow, King Lee II, Baron Lee IV, Baron Duke VIII, etc. Our sale will include Baron Duke VIII 4080 (one of the greatest living sons of Longfellow. He is 4 years old, a sure getter, is all right every way, and is offered without reserve. This is undoubtedly the best opportunity of the year to obtain one of the greatest herd headers.

SPECIAL NOTICE—Parties buying females may leave them at the farm until bred free of charge.

Terms of Sale—A credit of three, six or nine months will be given on approved notes bearing interest at the rate of 6, 7 or 8 per cent. per annum. A discount of 5 per cent. will be given for cash.

Write to the manager for catalogues. If you cannot attend the sale send mail bids to Col. Jas. H. Maxcy, Pasfield, Ill.

Remember the time and place—November 11, 1898, New Sharon, Iowa.

MRS. IDA H. HAWORTH, Prop.
SYLVANUS HAWORTH, Mgr.
COL. JAS. H. MAXCY, Auctioneer.

HARNESS Write for illustrated catalogue. Largest Harness and Carriage house in the Northwest. **NORTHWESTERN HARNESS & CARRIAGE CO., 172 6th St., St. Paul, Minn.**

J. G. Peppard

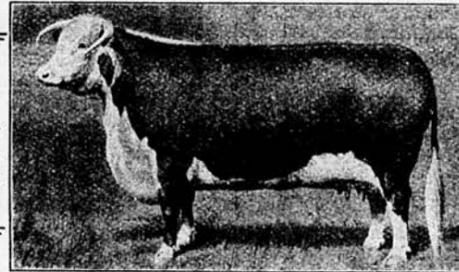
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MILLET CANE
CLOVERS
TIMOTHY
GRASS SEEDS.

SEEDS

SUNNY SLOPE,

EMPORIA, KANSAS.



WILD TOM 51592,

the great son of the great sire, Beau Real 11055, heads the herd.

Other Bulls in service are:

CLIMAX, LOMOND, Imp. KEEPON, and others.

Registered Hereford Cattle.

At the spring sales of 1898 we sold the highest-priced male and highest-priced female, and also had the highest averages for 5, 10, 20, 40, 60, 80 and 100 head. These averages were higher than that of any Hereford sale of recent years. Salisbury, sold to Mr. Murray Boacock, brought the highest price any Hereford bull ever sold for at public sale in America. Last year the herd won more premiums than any other Hereford herd. We point to the above facts as the best evidence of the superior character of the animals comprising the herd. The attention of discriminating buyers is called to the fact that we have for sale a splendid lot of males and females, bred in the purple, which will be sold as low as equal merit and equal breeding can be purchased elsewhere. Sixty head of the females are bred to imported bulls. Visitors always welcome.

THOS. EVANS, Mgr.

C. S. CROSS, Emporia, Kas.

ANNUAL PUBLIC SALE Pedigreed Poland-Chinas

At LEAVENWORTH, KAS., THURSDAY, NOVEMBER 3, 1898.

When I will offer FORTY HEAD of specially selected pedigreed boars and sows from my herd, fifteen of which were sired by my herd boars, Chief You Want 19921 S., he by the noted sire of prize-winners, Chief I Know 11992 S., whose sons and daughters won more prizes at the late Great Swine Show at Omaha, Neb., than did those of any other sire. Also by U. S. Model 20078 S., a son of the noted Klever's Model 14664 S. Five of the offerings are by Fortunate I Know, one by Chief I Know, eleven by Look's Chip 39977 A. (a son of Look Me Over), three by Young Hadley, and four by Corwin I Know. I have endeavored to breed the best possible, and the breeding above cited and the individuality of the offerings will attest on sale day how well I have succeeded. Your inspection and co-operation is respectfully invited.

Sale to commence at 1 o'clock p. m., in O. M. Spencer's barn. Prospective buyers from abroad will find accommodation at our headquarters, the National hotel. For terms of sale, etc., write for a free copy of sale catalogue.

GUSS AARON,

COL. JAS. W. SPARKS, Auct.

Kickapoo, Leavenworth County, Kas.

Sale of Pure-Bred Poland-China Swine

AT MARION, KANSAS, NOVEMBER 10, 1898.

Consisting of brood sows, one-year-old gilts, March, April and May pigs, and one tried herd boar, Corwin Sensation, will be sold. Tanner (19212), a grandson of the famous Hiderstretcher, goes in this sale. Get a Corwin Sensation pig. Write for particulars. Send for catalogue.

J. R. WILLSON, Marion, Kas.

GREAT FIVE DAYS' SALE OF REGISTERED CATTLE.

Hereford Cattle. Short-horn Cattle.

47 BULLS AND 53 COWS AND HEIFERS.

AT STOCK YARDS SALE BARN.

Kansas City, Mo., November 15 and 16, 1898.

30 BULLS AND 120 COWS AND HEIFERS.

AT STOCK YARDS SALE BARN,

At Kansas City, Mo., Nov. 17, 18 AND 19, 1898.

FOR CATALOGUE APPLY TO

GUDGE & SIMPSON, Independence, Missouri.
Or **JAS. A. FUNKHOSER, Plattsburg, Missouri.**

FOR CATALOGUE APPLY TO

H. C. DUNCAN, Osborn, Missouri.
Or **W. T. CLAY, Plattsburg, Missouri.**

Auctioneers—**COL. J. W. JUDY, COL. J. W. SPARKS, COL. S. A. SAWYER.**

OUR FALL SALE OF POLAND-CHINAS

INCLUDING OUR

GREAT OMAHA SHOW HERD

AT RIVERVIEW FARM, ADJOINING VILLAGE, WEDNESDAY, NOVEMBER 2, 1898.

QUALITY, FINISH, STYLE and FASHION UNSURPASSED. Seventy head, principally the get of Hadley Jr. (deceased), out of sows by Chief Tecumseh 2d, Hiderstretcher, Chief I Know, Klever's Model, Look Me Over, Chief I Am and Graceful Index. CATALOGUES ON APPLICATION ONLY. Terms liberal, guarantees ample. Sale under cover. All trains stop. Free entertainment. No boom business, but square business.

COL. J. W. SPARKS, Auctioneer.

KIRKPATRICK & SON, Connor, Wyandotte County, Kansas.