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BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the *Breeders' Directory* for \$15 per year or \$5.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

HORSES.

PROSPECT STOCK FARM.—Registered, imported and high-grade Clydesdale stallions and mares for sale cheap. Terms to suit purchaser. Thoroughbred Short-horn cattle for sale. Two miles west of Topeka, Sixth street road. H. W. McAfee, Topeka, Kas.

CATTLE.

VALLEY GROVE HERD OF SHORT-HORNS.—For sale, choice young bulls and heifers at reasonable prices. Call on or address Thos. P. Babst, Dover, Kas.

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H. W. CHENEY, North Topeka, Kas., breeder of HOLSTEIN-FRIESIAN CATTLE. Farm four miles north of town.

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HEREFORD CATTLE.—Archibald 1st 39253 and Cheerful Anxiety 49233 service bulls. One car bull and one car heifers for sale. Leading families. Also Poland-Chinas. J. F. Waters, Savannah, Mo.

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs. Short-horn cattle and Plymouth Rock chickens. Boars in service, Admiral Chip No. 7919 and Abbottsford No. 28351, full brother to second-prize yearling at Worlds Fair. Individual merit and gilt-edged pedigree my motto. Inspection of herd and correspondence solicited. M. C. Vansell, Muscotah, Atchison Co., Kas.

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\$1.25 FOR FIFTEEN EGGS.—B. P. Rocks, L. Brahmas, S. Wyandottes, S. C. B. Leghorns, B. Minorcas and Pit Games. Also Fox hounds. H. P. Hawkins, Pleasant Hill, Mo.

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POULTRY.

PURE-BRED LANGSHAN, BARRED PLYMOUTH ROCK AND S. C. B. LEGHORN EGGS, one dollar per thirteen. Address Robert Crow, Missouri Pacific Railway Agent, Pomona, Kas.

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Z. TAYLOR, Marion, Kansas.—Single-comb Brown and White Leghorns, Silver Wyandottes, Black Langshans, Barred Plymouth Rocks. Eggs \$1.25 for fifteen. Buff Leghorn eggs \$2 for fifteen. High-scoring birds.

H. H. HAGUE & SON, Walton, Kansas, will sell eggs from the following varieties: Light and Dark Brahmas, Buff and Partridge Cochins, B. P. Rocks, S. C. B. Leghorns, M. B. turkeys, Embden and Toulouse geese. Chicken eggs, \$1.50 per setting, straight. Geese and turkey eggs, 25 cents each.

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HARRY T. FORBES—FINE S. C. BROWN LEGHORNS. Eggs for sale, safely packed and sent by express to any part of the United States. Address 701 Polk St., Topeka, Kas.

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BARRED PLYMOUTH ROCKS EXCLUSIVELY.—Pitkin cockerels mated to Kegiey hens. All high-scoring birds. Have bred Plymouth Rocks for twelve years. Eggs, \$1 per 13; \$2 per 30. Satisfaction guaranteed. A few very choice cockerels for sale at \$2 each. Mention KANSAS FARMER. D. B. Cherry, Knoxville, Iowa.

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Has won more prizes in 1892 and 1893 than any other herd out, including championship at six State fairs and World's Columbian Exposition on Iowa Davyson 10th 3149. His calves for sale. Write.

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MAKIN BROS., Florence, Kansas, Breeders of HEREFORD CATTLE. We offer cheap good well-bred young bulls and heifers. Also choice show heifers and bulls. Write or come.

SHORT-HORN CATTLE Poland-China Swine, Buff Cochins Fowls. Inspection invited. **E. L. KNAPP,** Maple Hill, Kansas

SUNNY SLOPE FARM,

C. S. CROSS, Proprietor, Emporia, Kas.

Breeder of pure-bred Herefords. Beau Real 11055 heads the herd. Young bulls and heifers for sale. Also for sale, Poland-China swine. Choice bred young boars and sows by the World's Fair prize-winner, Longfellow 29785; and Berkshire swine of the noted Duchess and Lady Lee strains of N. H. Gentry. Bismarck and General Lee, both Gentry bred boars, in service.

SHANNON HILL STOCK FARM.

G. W. GLICK, ATCHISON, KAS.

Breeds and has for sale Bates and Bates-topped SHORT-HORNS. Waterloo, Kirklevington, Filbert, Cragg, Princess, Gwynne, Lady Jane and other fashionable families. The grand Bates bull Waterloo Duke of Shannon Hill No. 89879 and Winsome Duke 11th 115,137 at head of herd. Choice young bulls for sale now. Visitors welcome. Address **W. L. CHAFFEE,** Manager.

(Breeders' Directory continued on page 16.)

Wholesale Prices!

Thos. D. Hubbard, twenty years a wholesale merchant in New York city and Columbus, Ohio, having come to Kansas for his health, will supply at wholesale prices, Barbed Fence Wire, Wire Nails, Galvanized Chicken Fence Netting, Glazed Windows of all sizes for poultry houses, barns and other buildings, and all other requisites for breeders and farmers, free on board cars at St. Louis or at your own depot. For fuller information, address with stamp, **THOS. D. HUBBARD,** Kimball, Kansas.

In writing to advertisers please state that you saw their advertisement in the KANSAS FARMER.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

OCTOBER 2—C. C. Keyt, Short-horn cattle and Poland-Chinas, Verdon, Neb.

THE HORN-FLY PEST.

EDITOR KANSAS FARMER:—On April 28th, the horn-fly appeared in force at my place and they seem real hungry. I shudder when I think of the suffering they will cause the poor cattle during several long months.

Can't Chancellor Snow, or Professor Poppenoe, or Mr. Coburn, or some other good Samaritan, please send them away in two or three years, or turn some other fly or bug loose on them? This all for the good of the cattle—and the owners. If they will I will lobby for anything they want.

J. F. TRUE.

Prof. H. E. Weed, entomologist of Mississippi Experiment Station, Agricultural college, Miss., devotes Bulletin No. 28 to this pest, from which we quote:

"The flies suck blood from the cattle, producing irritation and worry to such an extent as to cause a decrease in milk from one-third to one-half. It has been our observation that dark-colored cattle are more subject to attack from the horn-fly than are cattle of a lighter color, one often seeing a white and a black cow standing side by side where the former will be nearly exempt from attack by the flies, while the latter will be covered with them. Some writers claim that the thin-skinned animals are most attacked, but this has not been our observation, color having more to do with the attack than has anything else, although why this is the case we do not attempt to explain.

"The remedies for the horn-fly consist of (1) various applications to the animals to keep the flies off; (2) applications to the animals to kill the flies, and (3) applications to the dung to kill the larvae.

"During the past two seasons we have experimented with many substances which have been applied to keep the flies from the animals, most of which have proved of but little value, as they evaporate so readily. The following, however, have been fairly satisfactory, as they keep the cattle free from the flies from a week to ten days.

"Crude cottonseed oil or fish oil and pine tar mixed, about two parts of the former to one of the latter. The two mix readily and are very easily applied to the animals at milking time by means of a large paint brush. Applied in this manner it takes but a half minute to a cow, making the cost of the application but a small item. We have treated 350 head at a time with the crude cottonseed oil and tar in this way, using but four gallons of the oil and less than two gallons of the pine tar. The cost of the oil is 30 cents per gallon and of the tar about 50 cents, making the total cost of the application to 350 head about \$2.20, or about three-fourths of a cent per head.

"A preparation known as 'gnat oil,' which is largely used in some localities for buffalo gnats, as its name implies, has given about the same success as the above. It is made as follows: Crude carbolic acid, one ounce; pennyroyal, one-half to one ounce; sulphur, one-fourth pound; crude cottonseed oil, one gallon. This was applied to the animals in the same manner as was the first preparation, and we were unable to see any difference in the animals treated with the gnat oil and those treated with the crude cottonseed oil and pine tar mixture, both preparations keeping the animals free from the flies from a week to ten days, depending to some extent upon how numerous the flies were at the time.

"The best application to kill the flies is kerosene emulsion. In 1892 we experimented quite successfully in this line. The milk emulsion was used, made by mixing thoroughly one part of slightly sour milk with two parts of kerosene and then diluting this with twelve to fifteen parts of water. The emulsion was applied to the animals at milking time by means of a knapsack sprayer, directing the spray directly upon the flies as much as possible. After three applications in as many days the flies were killed out so that they were not again numerous until

nearly three weeks later. In 1893 the emulsion remedy was again tried, but not with as favorable results. The crude cottonseed oil and tar mixture being so cheap and so easily applied we have adopted this method of treatment as the best.

"Some writers have recommended the application of lime or plaster to the cow dung in the field to kill the larvae as being the best method of lessening the numbers of the horn-flies. The conditions as to the pasturage of the animals throughout the South, however, are such that this method of treatment is not practicable."

Good Logic for Stockmen.

Many times has the editor of this department urged more general co-operation between breeders and stockmen for the common interest. There is nothing more depressing in a business way than the utter indifference of breeders towards each other. Help your fellows at every opportunity and you will be surprised at the improved results to yourself.

M. F. Greeley, writing to the *Dakota Farmer*, says: "The impression that one class of farmers, producers or consumers, can for any length of time be in prosperous or destitute circumstances, and other classes not share in their prosperity or penury, is one which leads to the gravest errors.

"The hog man may say that it is immaterial to him whether the cow, horse or sheep man prospers or not, so long as his business flourishes. So may either of the others say to the hog man. But let the cow and sheep man's business become unremunerative and hogs be raised in place of the sheep and cow, and will not the hog man stop and think? May he not even be driven to trying the despised sheep and cow himself?

"Let wheat be high and all branches of stock-raising more or less depressed, and how long before former stockmen will lend a hand toward flooding the market with grain? So between producer and consumer. When the consumer prospers he not only consumes much more of the producer's goods than he otherwise would, but he has no inducement to turn his attention to producing himself. And when the producer prospers he has no temptation whatever to help glut the labor market with himself or with the labor he employs.

"In a great country like this, the interest of one is the interest of all. The greater our neighbor's prosperity, the better are the chances that we shall prosper also."

The Hog Supply.

In order to force down the price of hogs during the past month or two packers have been harping upon the idea that the country is more heavily stocked with this class of live stock than it has been for several years past. The general opinion of those most interested has been that the country is full of young hogs and heavier receipts for this spring and summer's markets have been predicted. So far these heavy supplies have not been forthcoming. What the future will bring forth remains to be seen, but it does not now look as though the markets will be flooded with hogs by any means.

The report of the government on the hog supply and condition indicates that there are fewer hogs in the country now than a year ago and more than 15 per cent. less than two years ago. According to this report, which can be considered approximately correct, the number in the country April 1 was 45,206,000, against 46,094,000 April 1, 1893, and 52,298,000 April 1, 1892. The total is the smallest since 1888, although the conditional average is about the highest. The number in the twelve packing States is 27,569,000 against 29,232,000 for the same twelve States last year. The total is a good deal more important to the trade than the condition. There are fewer hogs in the country, according to this report, than there have been for six years. The condition of the hog crop is given as 97.1 per cent., against 96.4 per cent. last year and the loss for the year ending April 1, 1894, has been

only 4.9 per cent. against 6.3 per cent. for the year ending April 1, 1893. Even with the lighter loss the supply is much less at present than it was a year ago. The better condition of the hog markets for the past week or two would seem to indicate that packers are inclined to think that their estimate of a heavy hog supply for the coming summer was erroneous.—*National Stockman and Farmer*.

Farm Horse Breeding.

Many of our farmers breed to raise their ideal light, handy little horse for general-purpose horse for their own use, and if they happen to get a good horse, it is the first one sold. Then any old scrub or even a mule will do to work on the farm. Is it not better to breed for the most salable horse, large, heavy draft, or stylish coachers, and keep all the mares and young horses to do the farm work? There will always be some of them small enough to use for the road, while the grade draft or coach mares will make the best farm teams, and when American farmers learn to utilize the brood mares for farm work and raise valuable colts, they will make horse raising more profitable than by maintaining teams of unproductive geldings and mules.

On this subject an English farmer and breeder at the Suffolk show said, they were justly proud of the Suffolk horse, and he was sure they all desired that it should be not only an ornament upon the farm, but also a source of profit to the farmer. They could not afford to farm for good looks, and they could not afford to breed horses simply to work upon the farm. A farmer must make a certain profit on his horses, exactly as he did upon his sheep and cattle. A short time since he received a letter from Mr. Sutton Nelthorpe, a most successful breeder of Shire horses, who at a recent sale made an average of 199 guineas for his horses. He said in order to make a profit on the breeding of horses they should be made to work on the farm for four or five years and then sold for work in the towns. Young horses would work fairly well at the plow, but they were no use in the streets, and they were no good for the towns at all unless they were sound in the feet.—*Western Agriculturist*.

According to the *Wool and Hide Shipper*, many flockmasters are now growing dwarf Essex rape for their sheep. Under favorable conditions it will be ready for the sheep six weeks after it is sown; the time for seeding is from May to the middle of August. If sown early it will make fine pasture for sheep during the dry weather of August and September. It springs up quickly like buckwheat and sheep thrive and make a rapid growth while feeding upon it. It is so highly recommended by those who have tried it that we hope some of our breeders will give us their views regarding rape as a forage plant.

Weather Report for April, 1894.

Prepared by Prof. F. H. Snow, of the University of Kansas, from observations taken at Lawrence:

The warmest April in twenty-seven years, except April 1878. The rainfall was nearly normal and well distributed throughout the month. The sky was clearer than usual; the barometer was higher than the average and the wind lower. The last light frost of spring occurred on the 22d.

Mean temperature was 58.32°, which is 3.89° above the April average. The highest temperature was 90°, on the 28th; the lowest was 32.5°, on the 1st and 6th, giving a range of 57.5°. Mean temperature at 7 a. m., 50.53°; at 2 p. m., 67.88°; at 9 p. m., 57.45°.

Rainfall was 3.09 inches, which is 0.11 inch below the April average. Rain in measurable quantities fell on twelve days. There were five thunder showers. The entire rainfall for the four months of 1894 now completed is 8.06 inches, which is 0.27 below the average for the same months in the twenty-six years preceding.

Mean cloudiness was 42.77 per cent. of the sky, the month being 1.87 per cent. clearer than usual. Number of clear days (less than one-third cloudy) twelve; half clear (one to two-thirds cloudy), ten; cloudy (more than two-thirds), eight. There were three entirely clear days and two entirely cloudy. Mean cloudiness at 7 a. m., 60.3 per cent.; at 2 p. m., 43.3 per cent.; at 9 p. m. 24.7 per cent.

Wind was east seventeen times; south-

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east, seventeen times; southwest, sixteen times; south, fourteen times; northwest, thirteen times; north, nine times; west, three times; northeast, once. The total run of the wind was 13,803 miles, which is 507 miles below the April average. This gives a mean daily velocity of 443.43 miles, and a mean hourly velocity of 18.48 miles. The highest velocity was fifty-five miles an hour, between 1 and 2 p. m. on the 5th.

Barometer.—Mean for the month, 29.072 inches; at 7 a. m., 29.095 inches; at 2 p. m., 29.059 inches; at 9 p. m., 29.061 inches; maximum, 29.516 inches, on the 5th; minimum, 28.742 inches, on the 18th; monthly range, 0.774 inches.

Relative Humidity.—Mean for the month, 60.4 per cent.; at 7 a. m., 71.06; at 2 p. m., 46.7; at 9 p. m., 63.5; greatest, 94, on the 14th; least, 15, on the 3d. There were no fogs.

Climate and Crops Just Right.

Oklahoma has thousands of acres of the finest farming land in the world, waiting for you or anybody else with a little cash and lots of gumption. Climate crops are just right. Farms will cost more next year than this. To find out if this is the country you want, ask G. T. Nicholson, G. P. A., Santa Fe route, Topeka, Kas., for free copy of Oklahoma folder.

If Grown in Texas, It's Good.

The Texas coast country vies with California in raising pears, grapes and strawberries. The 1893 record of H. M. Stringfellow, Hitchcock, Tex., who raised nearly \$6,000 worth of pears from thirteen acres, can be duplicated by you. G. T. Nicholson, G. P. A., Santa Fe route, Topeka, Kas., will be glad to furnish without charge an illustrated pamphlet telling about Texas.

"Among the Ozarks,"

the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery, including the famous Olden fruit farm of 3,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks, and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address, J. E. Lockwood, Kansas City, Mo.

Shenandoah Valley, Virginia.

Have you visited it? If not, we are very sure you know its reputation through friends who have gazed on its mountains, inspected its fine stock and fruit farms, figured on its mineral and timber wealth, and were well pleased with its equable climate, its thriving towns, and the opportunities for securing the best of homes at surprising prices.

Now! Now! Now! Is the time to take advantage of low railroad rates and see this grand valley.

MARCH 8 AND APRIL 9 the Baltimore & Ohio railroad company will sell tickets at One Fare for the Round Trip from Chicago to points in the Shenandoah valley.

For information about these excursions, address L. S. Allen, A. G. P. A. Baltimore & Ohio railroad, Chicago, Ill.

For information about lands, business openings, etc., address M. V. Richards, Land and Immigration Agent, Baltimore & Ohio railroad, Baltimore, Md.

Agricultural Matters.

DISTRIBUTION AND CONSUMPTION OF CORN.

The March report of the Statistician of the Department of Agriculture is a very interesting document.

The supposed tendency to an enlargement of the area devoted to corn is not sustained by the report. The aggregate acreage for the five-year-period from 1884 to 1888, inclusive, was 366,573,621 acres, giving an average of 73,314,724. For the succeeding quinquennial the total acreage was 369,158,052, making an average for this period of 73,831,610 acres. In 1892 the acreage was 70,626,658 or 2,688,066 acres less than the average in the first of these five-year-periods, and 3,204,952 less than the last, while the acreage of 1893, although an increase of about 1,410,000 acres over that of the preceding year, was still under the averages of the periods named by 1,278,259 and 1,795,145 acres, respectively. The crop of 1893, notwithstanding the comparative increased acreage over that of 1892, was some 9,000,000 bushels less, or 1,619 against 1,628 millions. The apparent consumption, however, up to March 1, 1894, was greater than for the corresponding period of the year before, being 1,033,000,000 as against 1,002,000,000 bushels. The exports of corn for the fiscal year ending June 30, 1893 were 47,121,894 bushels, and for the seven months ending January 31, 1894, 38,413,309 bushels, which is within eight and three-fourths million bushels of the total exports during the last fiscal year.

The corn in producers' hands, as estimated, aggregates 586,000,000 bushels or 36.2 per cent. of the last crop. This proportion is less than for any year in the past five, except that of 1891.

As usual, the proportion distributed in the southern section of the country is less than in any other, being 60 per cent. In the western section the amount is somewhat larger than last year, while for the whole country it is 2.3 per cent larger.

The account of stores still in the possession of original producers shows an aggregate of nearly 586,000,000 bushels, or 36.2 per cent. of the product of last year (1893). Of this amount, nearly 72 per cent. is to be found in the western group, which includes some of the surplus States.

It is conceded that ordinarily only the seven Western States of Ohio, Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska have any material excess over what is required for home consumption, and it is from these States, therefore, that the great commercial supplies are drawn. In these States there was on hand March 1st an aggregate of 360,000,000 bushels, in round numbers, against 380,000,000 bushels last year and 546,000,000 bushels the year before. The present supply is greater than last year in only two of the seven States, viz., Iowa and Missouri. The largest proportion is in Iowa—42 per cent.—with Missouri and Nebraska coming next, each showing 36 per cent. of their respective crops.

Only 15.5 per cent. of the crop of last year has been moved beyond county lines, i. e., for the country at large. In the western section the proportion entering commercial channels is, of course, higher, being a little over 18 per cent. of the crop raised in that division. This is also true of the Pacific region, where 22 per cent. of a crop of a little over two million bushels was distributed beyond county lines. In the New England, Middle, Southern, and Mountain region divisions the crop is almost entirely consumed where grown.

Quality as well as quantity is a matter of importance in estimating the value of a crop. The proportion of merchantable corn is 85.6 per cent. of the whole crop, and represents in quantity over 1,386,000,000 bushels against 1,345,000,000 bushels of the larger crop of 1892. The proportion was some 3 per cent. less than that of the crop of 1891, the latter being 88.5 per cent. The injury to quality from drought and frost was not so great as was believed at the close of the season.

The massed value of the corn crop of

1893, was \$591,625,627, or an average value of 36.5 cents per bushel against 39.4 cents and 40.6 cents for the years, respectively, 1892 and 1891. The total value of the crop of both grades, i. e., merchantable and unmerchantable, as shown by the returns of March 1, is \$537,762,804, or about \$54,000,000 less than the value as given in the returns of December last for the whole. The discrepancy is in part explained by the fact of grading in the later returns.

Preservation of Shingles and Fence Posts.

[The letter from J. F. Woodrow, of Eureka, recently published in the KANSAS FARMER, wherein were given answers to some inquiries as to the best methods of preserving shingles and fence posts, called out further inquiry from Wm. Walker, of South Solomon City, and to this Mr. Woodrow replies as follows.—EDITOR.]

Get best tough sheet-iron—not heavier than sixteen-gauge nor lighter than twenty-gauge—thirty inches wide and long enough to make the bottom and two sides. Mine was forty inches deep, but thirty or thirty-six will do. Then take two sheets more, suitable in length and breadth, to make the other two sides. Round off the corner of a two-inch plank, and lay on the iron, so as to bend over about one inch of the edge, bottom and top. Cut out a little nick at the two corners, so as to allow it to bend. Get rivets and suitable punch and rivet set. Be careful not to pound or buckle the iron. Run a gauge mark five-eighths of an inch from the edge, and punch the holes three-fourths of an inch apart. You will do well to prepare a strip of iron one inch broad and lay off and punch the holes in this with much care and use this for a pattern to punch through. Lay the iron on a large block sawed off straight. Punch on end of it. Keep your punch properly size and square on the face, so the piece right out. Be sure the rivet set, so as to make the sheets lay up solid before swelling the end of the rivets. If done thus you will have a good tight job. But should it leak you can take a small sharp cold chisel and chip the edge and then with calking-iron stop the leaks the same as in making boilers. Best black iron will do as well as galvanized, for when covered with oil and coal tar it will never rust. Arrange something to keep the shingles down to the bottom and have the paint a little more than twice as deep as you want the shingles to show to the weather—say a foot of the butt end, cooked in the paint, and show, when laid, five inches to the weather. Take raw linseed oil and use enough red lead to make rather a thin paint. After the roof is on give it a good, heavy coat of the same paint, and if not burned up your great-grandchildren will still have a roof over them.

I say, make your cooking tank thirty or thirty-six inches deep, because you will want to cook your fence posts in coal tar. But before this, have your post well dried and free from bark (and sharpened if to be driven). Lay two poles about eighteen inches apart and make fire between with bark and chips; lay another pole for top end of posts to rest on. Turn the posts to burn all round even and not too deep. Do not burn the lower end by a foot, as this is always in the ground and never rots, but burn so as to show six inches above ground when set. Lay them off the fire, and if not burnt too much, the fire will go out at once. But if it does not, water them out and then they are ready for the tar kiln, which should be set on a slope. Dig slightly in the ground and lay a brick wall about six inches deep and wide as the tank. Take an old wagon tire and bend into a letter S, or several of them, and lay on your wall. Set on your tank and pack dirt all around it, using a sheet-iron of some kind in front, so as to put dirt on it. Dig a flue hole back above the tank so as to set in two or three joints of stove pipe, packing the dirt so as to run the tar off around the fire, and pass on down the grade without getting in the fire, for it takes careful work not to run it over. The tar will raise to any height you want by adding fire, but be sure not to get it on fire. But should it take fire take a good pitchfork and stab in the posts and

throw them out and drag away and the tar will soon stop burning. But don't throw water on it, as this will double the flames. Should you need any further directions call for it, and report to me or through the FARMER.

J. F. WOODROW.

Two Dollars for Wheat.

The papers throughout the Northwest have been quoting quite liberally recently from President Van Horn, of the Canadian Pacific railroad, in which he predicts that wheat will go to \$2 per bushel inside of eighteen months. The gentleman says:

"Last year farmers received but little more than the cost of production for their wheat, while in many instances the return per bushel was smaller than the expenditure. This can only have one effect—the discouragement of wheat-producers and the consequent decrease of acreage. If there is a decrease of 10 per cent. in wheat production this year, on account of the low prices of last year, there will be a shortage of 275,000,000 bushels, and 10 per cent. of a decrease will be within the mark. As far as I can remember there has never been a surplus of 150,000,000 bushels. This year the surplus has been used up by feeding the stock, and we will probably start in with as nearly clean sheets as ever before. If there is a shortage of but 150,000,000 bushels, this will not be discovered until too late to sow more wheat and wheat will go up with a jump."

Commenting on this, the *Northwestern Farmer* says:

"The above estimated yield may be true, and even the price is one of the possibilities, but the *Farmer* is satisfied that it is not one of the probabilities. It is a good thing for this railroad President to encourage the farmers along its line to greatly increase the acreage and make more hauling. It will also help to keep the ground in cultivation for other crops in future, but the prudent farmer will not borrow any money or make any obligations with the expectation of getting over 50 cents per bushel this fall. If more than that is realized the farmers can lay it to a clear pick-up, to a crying demand to down speculation, or for one lot of speculators to get a run on the other lot."

Publications of the U. S. Department of Agriculture for April.

Some Destructive Potato Diseases: What They Are and How to Prevent Them. By B. T. Galloway. Pp. 8, figs. 3. (Farmers' Bulletin No. 15.)—Describes potato blight or downy mildew, the Macrosporium disease, and potato scab, and gives directions for the treatment of these diseases.

Leguminous Plants for Green Manuring and for Feeding. By E. W. Allen. Pp. 24. (Farmers' Bulletin No. 16.)—Presents the advantages of plowing under green crops of leguminous plants—clover, peas, beans, lupines, etc.—and also of using these plants as food for stock.

The Pollination of Pear Flowers. By Merton B. Waite. Pp. 110, pls. 12, figs. 5. (Bulletin No. 5, Division of Vegetable Pathology.)—A report on experiments showing the inability of most common varieties of pears to set fruit, though blossoming profusely, if insects are kept from them or cross-fertilization is by any means prevented.

An Important Enemy to Fruit Trees. By L. O. Howard. Pp. 10, figs. 5. (Circular No. 3, Second Series, Division of Entomology.)—Treats of the San Jose scale insect, its appearance in the Eastern United States, and the measures necessary to prevent its spread and to destroy it.

Report of the Statistician, March, 1894. Pp. 69-156. (Report No. 113, Division of Statistics.)—Contents: Distribution and Consumption of Corn and Wheat; Supply and Distribution of Wheat for Twenty-five Years; The Wheat Crop of the World; Wholesale Prices of Principal Agricultural Products in all Sections of the United States; Expense of Raising Wheat and Corn; Production of Honey and Beeswax; Poultry and Eggs; Dairy Products; Official Statistics of Foreign Crops for 1893; The World's Wool Supply; Notes from United States Consular Officers

Nobody

need have Consumption. It is not inherited. The inherited tendencies toward it are overcome by

Scott's Emulsion

the Cream of Cod-liver Oil, which makes children robust and healthy, and stimulates the development of the lungs in old and young alike. Physicians, the world over, endorse it.

Don't be deceived by Substitutes!

Prepared by Scott & Bowne, N. Y. All Druggists.

and European Agents; Domestic and Trans-Atlantic Freight Rates.

Report of the Statistician, April, 1894. Pp. 157-218. (Report No. 114, Division of Statistics.)—Contents: Condition of Winter Grain; Wheat Production in Census Years since 1869; Farm Animals—Condition and Losses; Increase and Decrease in the Number and Value of Farms, 1880-1890; Agricultural Development in Bosnia and Herzegovina; Health of the People; The Cotton Crop of India for 1893-94; Reports of United States Consular Officers; Transportation Rates.

Report of the Statistician. New Series, No. 114. Pp. 4.—Estimates in condensed form of the condition of winter wheat and rye, and of the numbers and losses of farm animals in the several States and Territories.

Improvement of the Road System of Georgia. By O. H. Sheffield. Pp. 31, figs. 5. (Bulletin No. 3, Office of Road Inquiry.)—Describes briefly the location, construction, and maintenance of roads, and presents the advantages of utilizing convict labor in improving the roads of Georgia.

Report on Road-making Materials in Arkansas. By John C. Branner. Pp. 11. (Bulletin No. 4, Office of Road Inquiry.)

Experiment Station Record, Vol. V, No. 8. Pp. 745-830, figs. 12-19—Contents: Editorial notes on the fertilizers and feeding-stuffs act of England; article on the Experiment Station at Bernberg, Germany, and its Methods of Sand Culture; abstracts of the publications of the agricultural experiment stations and of the U. S. Department of Agriculture; abstracts of reports of foreign investigations; titles of articles in recent foreign publications, etc.

Announcement [relative to the functions of the Division of Agricultural Soils]. Pp. 3. (Circular No. 1, Division of Agricultural Soils.)

Monthly Weather Review—February, 1894. Pp. 47-97, charts 6.—A summary of the weather conditions observed throughout the United States during the month of February, compiled from the reports of numerous observers. Intended chiefly for meteorologists.

Charts of the Weather Bureau. (Size, 19 by 24 inches.)—Semi-daily Weather Map, showing weather conditions throughout the United States and giving forecasts of probable changes. Weather Crop Bulletin (series of 1894), reporting temperature and rainfall with special reference to their effects on crops: No. 3, for the month of March, 1894; No. 4, for the week ending April 9, 1894; No. 5, for the week ending April 16, 1894; No. 6, for the week ending April 23, 1894; No. 7, for the week ending April 30, 1894.

What You Don't Know About California

Is told in a beautifully illustrated and entertaining book entitled "To California and Back." Ask G. T. Nicholson, G. P. A., Santa Fe route, Topeka, Kas., for a copy. It is free.

The San Francisco Midwinter Exposition will attract tourists to the Pacific coast this winter. Write to above address for pamphlet describing World's Fair, Jr. The unexcelled climate, cheap lands and sunshiny skies of all California are attractive every day in the year. Low rates via the Santa Fe route.

Irrigation.

PUMPING MACHINERY FOR IRRIGATION.

From a paper by Ira C. Hubbell, read before the Inter-State Irrigation Association, at Omaha.

Windmills have a rated horse power capacity, and this power is predicated upon a wind of twenty miles per hour, which is termed a strong wind. A better average wind for our purpose, and one considered more conservative, is of fifteen miles per hour. In this connection it would be well to remember that the power of a windmill of any diameter increases or decreases as the square of the velocity of the wind in miles per hour, and that therefore a mill of three horse power capacity in a fifteen-mile wind will have but one and one-third horse power in a ten-mile wind. It should also be remembered that a mill of any diameter will handle a greater or less quantity of water as the total vertical height of the discharge in feet is decreased or increased. For instance, a mill that will raise 100 gallons per minute 100 feet vertically will elevate 200 gallons per minute fifty feet vertically, for 100 gallons multiplied by 100 feet and by eight and one-third pounds (the weight of one gallon of water) and by one minute of time = 83333 foot pounds, and $200 \times 50 \times 8\frac{1}{3} \times 1 = 83333$ foot pounds. Here is a most excellent place to say that the habit of resolving work to be done to foot pounds is good practice and will restrain some of us from chasing perpetual motion. Remember, above all things, that one pound of any substance (no matter what) raised one foot vertically in one minute of time; or the equivalent, requires a mechanical force of one foot pound plus the friction that is due to the means employed; and you may as well try to lift yourself into heaven by your boot tops as to evade this principle.

A cubic foot of water weighs approximately sixty-two and one-half pounds and contains approximately seven and one-half gallons of eight and one-third pounds each. A mechanical horse power is 33,000 foot pounds; it therefore requires .0002527 horse power to raise one gallon of water one foot vertically in one minute. This is net work realized and makes no allowance for friction at any point. Allowing for all friction about 34 per cent., the constant becomes .00034. Dividing one horse power by this latter constant, we find that one horse power will raise 2,941.765 gallons of water one foot, 1,470 gallons two feet, or about 294 gallons ten feet, or 118 gallons twenty-five feet, in one minute. Remember, in checking these figures, that these quantities are predicated upon an allowance of a little over 34 per cent. for friction.

Now for a practical application of the constant .00034: A farmer has a ten-foot windmill. His well is thirty feet deep, has plenty of water, and by raising the water onto a knoll twenty-five feet above the top of the well he can construct a reservoir, say, 150 feet long, seventy-five feet wide and four feet deep. How much water can he rely upon his mill furnishing? Basing the calculation upon the average wind of fifteen miles per hour, the ten-foot mill will yield .56 horse power, which divided by $30 + 25 = 55 \times .00034 = 29.9465$ gallons per minute. Proof, $2,941.765$ gallons one net horse power will raise one foot in one minute $\times .56 \div 55 = 29.9465$. Another proof, 29.9465 gallons $\times 8\frac{1}{3}$ pounds $\times 55$ feet $\times 1$ minute $\div 33,000 = .41592$ net horse power, to which add 34.64 per cent. (which is the allowance for friction in the constant .00034), we have actual horse power .55999. It is, therefore, safe to rely upon thirty gallons per minute, or 1,800 gallons per hour. The reservoir specified will hold about 340,000 gallons of water. It is conceded that a mill will work about one-third of the twenty-four hours, or eight hours, yielding a maximum quantity of 14,400 gallons per day, filling the reservoir in about twenty-four days; or, in the 180 days water is wanted, this ten-foot mill will yield about 2,550,000 gallons, or sufficient water to take care of ten acres of ground.

While it is true that the force of the

wind is as the square of its velocity, so is it true that the power of windmills is as the square of their diameters; therefore, a twelve-foot mill will do nearly 50 per cent. more work than a ten-foot, and a fourteen-foot mill will do nearly 100 per cent. more than a ten-foot mill. Therefore, with an ample water supply the farmer in the case just cited would be amply justified in throwing away the ten-foot wheel and erecting a fourteen-foot mill.

The windmill only has been spoken of so far. To elevate water by wind power requires some form of a pump head and cylinder operated by the mill. To facilitate selection of cylinder for the work, as has been endeavored to help select a windmill for the duty, other constants are here given. Drawing from deductions of Mr. B. A. McAllister in his paper of November 23, 1893, at Wichita, it is determined that an acre of land will need during the season 32,670 cubic feet, or 245,900 gallons of water, or an average of 1,366 gallons per day (season called 180 days), or ten acres require 13,660 gallons per day. Wind power for the day, eight hours, or 1,706 $\frac{1}{2}$ gallons per hour, or about twenty-eight and one-half gallons per minute. If you will square the diameter in inches of the water piston or plunger in a cylinder or pump, and multiply that result by the constant

ply the water he will furnish the address of reputable dealers who will furnish windmills and pumps, guaranteeing results as given.

Cost of Water.

EDITOR KANSAS FARMER:—In your issue of May 2, you quote from the *Industrialist*, Prof. Mason's interesting paper on "Irrigation for Eastern (and Western) Kansas." I desire to enter a criticism on one of his points—the cost of water. Based upon Manhattan domestic water rates, he computes the cost of an acre inch to be \$3.75. Assuming thirteen inches to be the depth annually necessary for crops (see Colorado data quoted by me in *FARMER*, January 24), the annual cost of water to an irrigator would be \$48.75 per acre. I presume the Manhattan water is furnished under pressure or head, against which it has been pumped. I need not name smaller cities that are furnishing water under pressure and against the friction of longer service pipes at 3 $\frac{1}{2}$ cents per 1,000 gallons, nor is it necessary for me to say that for irrigation purposes water does not have to be pumped into stand-pipes 100 to 200 feet high nor against corresponding pressures and frictions. I will simply say that I would not recommend the use of Manhattan domestic water supply for irrigation at \$48.75 per acre per annum,

number of gallons discharged per second.

"To get the miner's inch in gallons, divide the number of gallons flow, or discharge, per minute, by 8.9766. The result will be the number of inches sought.

"One miner's inch in gallons per second is.....	0.1496
" " minute.....	8.676
" " hour.....	538.56
" " day.....	12,925.44
" " month.....	393,418.
" " year.....	4,721,017.

"One miner's inch will flood ten acres per year 1.45 feet deep; 14.49 acres per year 1.00 foot deep; 18.11 acres per year 0.900 foot deep."

In Arid Kansas and "The Way Out."

H. V. Hinckley, at the Wichita State Irrigation Convention, November 22, 1893.

The eastern boundary of our arid region may be taken on the 99th meridian, passing near Smith Center, Russell, Great Bend, St. John, Pratt and Medicine Lodge, by which assumption it embraces 28,000,000 acres; or it may be taken on the 97th meridian, passing near Clay Center, Abilene, Newton, Wichita and Wellington, by which it embraces 36,000,000 acres. Since the term "arid" means "without moisture," the area comprised by the arid portion of Kansas is indefinite. There is but little, if any, land in Kansas that holds actually no moisture, but there are 12,000,000 acres in the west end of the State on which very few crops have ever been raised for want of sufficient moisture.

Then comes another 12,000,000 acres that has a very little moisture, and on which wheat, alfalfa, etc., have been grown with limited success, some years.

Then another 12,000,000 acres on which large crops have been grown some years by the aid of copious rainfall, but on which the crops of other years have been failures from lack of rain.

These areas are arbitrary, and are presented merely to show the vastness of the domain which needs especial attention in our own State.

The rainfall at Leavenworth for fifty-five years has averaged 35.2 inches per annum, varying from 15 to 59 inches. At Lawrence for twenty-four years it has averaged 36.3 inches, and at Manhattan for thirty-eight years, 29.3 inches. As we go west, we find less rainfall. At Larned, eleven years average 20.6 inches; at Dodge, nineteen years average 20.8 inches; at Wallace, seven years average 18.2 inches. Dodge reports for the first ten months of this year 9.6 inches; for the first six months 2.5 inches, and for the first four months a total of four-tenths of an inch.

Wallace reports a minimum annual precipitation of 8.3 inches, and for the first four months of this year, one-seventh of an inch.

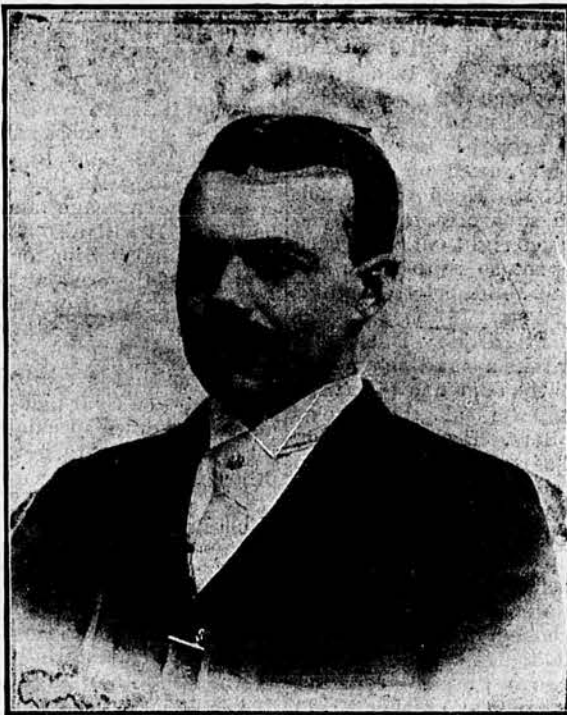
In Vol. XIII. of the Transactions of the Kansas Academy of Science is a diagram, prepared by E. C. Murphy, of Lawrence, which shows conclusively that for over fifty years those sections of Kansas that are represented by meteorological records have had three consecutive wet years in each eight years, the three wet being always followed by four or five dry seasons.

While the surface and sub-surface waters have been all these years singing in our ears their eternity song, "Men may come and men may go, but I go on forever," we have simply said to the waters: "Go on; it doesn't occur to us that we need you."

Is it not high time for us to recognize the fact that western Kansas is not an agricultural country except by irrigation?

The average farmer in central Kansas gets less than half the crops that he would get if he had a sure water supply, and yet he has become so accustomed to losing five out of every eight crops that he hardly thinks of what might be.

I have heard it remarked that irrigation agitators are cranks. Then are the potato-growers of Greeley, Colo., cranks when they reap annually a profit, per acre, of five times the investment; then has Colorado 2,000,000 acres of cranks; then are the fruit-growers of Southern California cranks, when, by investing \$50 to \$400 an acre for water, they convert a desert waste (not worth a dollar an acre) into the richest orchard districts in America; then is



IRA C. HUBBELL

.00034 and by the length of the stroke in inches and by the number of strokes the piston or plunger makes per minute you have the actual capacity of the cylinder in gallons per minute. There is, however, a loss here, as more or less water leaks past the piston or plunger, so that in reality we only realize about 80 per cent. efficiency; therefore our constant should be for actual results, .00272. The capacity of a cylinder, six-inch diameter, eight-inch stroke, forty strokes per minute, determined by long process, is: Area of six-inch piston = $6 \times 6 \times .7854 = 28.2744$ $\times 8$ -inch $\times 40 \div 231 = 39.168$ gallons theoretical capacity $\times 80$ per cent. = 31.3344 gallons actual. Determined by the constant, $6 \times 6 \times 8 \times 40 \times .00272 = 31.334$ gallons. In the problem just stated we want twenty-eight and one-half gallons per minute for our ten-acre tract of land. Assuming that the mill employed will make an average of forty revolutions per minute and the length of the stroke to be eight inches, then the square root of $28.5 \div .00272 \times 40 \times 8 = 5.72$, or, say a cylinder six inches in diameter. From the preceding the size of mill or cylinder for any location may be determined, and the farmer thus calculating can purchase an article he knows will do his work. To demonstrate the author's faith in the figures here given, he begs to say that if farmers will sup-

while there are millions of acres in Kansas that can be given permanent water supply at such cost that the entire capitalized investment (for first cost of pumping plant, maintenance, operation and renewal) can be paid for out of the net profits of one crop, or such that the water annually will cost between \$1 and \$5 per acre.

Topeka, Kas. H. V. HINCKLEY.

What is a Miner's Inch?

In discussions of the use of water for purposes of irrigation the reader sometimes finds expressions which are new and little understood outside of the older irrigation districts. One of these—the miner's inch—is borrowed from the old gold washers of California. The South California Farmer gives the following explanation of this term:

"The mode of measurement of the miner's inch of water varies in different localities, but the accepted legal measure is that quantity of water which will flow through an opening of one square inch in the bottom of a vessel under a mean pressure of four inches. Fifty of the above miner's inches are equivalent to a discharge of one cubic foot of water per second.

"To get the number of gallons in miners' inches, multiply the given number of inches by 14.961, pointing off five decimals. The result will be the

Queen Victoria a crank when she puts her millions upon millions into those immense aqueducts of her India, bringing to the arid plains the water for reclaiming the land, saving her famishing people, and paying handsome returns on her investment.

Then are they all cranks who have, in the last seven years, increased the irrigated and producing area of the United States from 3,000,000 to 18,000,000 acres.

If these are cranks, give us more of them in Kansas. The objectors to the irrigation movement, however, are few. The man who objects to irrigation because it is unhealthy, can find no facts to bear out his imagination, and such a man would pray: "O, Lord, don't send us any more rain, for we fear it is unhealthy to have water on the surface of the ground."

The man who don't want irrigation encouraged because the successful irrigation farmer will drive the other farmers out of business, would pray thus: "O, Lord, we pray Thee, confiscate the New York Central railroad, for it is taking business away from the Erie canal."

There are over a billion acres of "desert" west of us, and we can best appreciate the importance of the great work that has been commenced when we put the estimated irrigable acreage in Kansas (2,000,000 acres) on top of the fact that the average irrigated acre yields three times the crop that is raised on the average unirrigated acre. On the greater portion of this vast arid territory the "tenderfoot" can see nothing to support animal or vegetable life, and yet the valuation of the great metropolis of New York, with its marble fronts, warehouses, railroads and docks, is not equal to that of the cattle to-day feeding upon these desert plains. What then shall be the result when we increase the value of this 2,000,000 acres of land ten-fold or twenty-fold? Simply this: The "calamity" will be over; settlers and investors will come back to Kansas faster than they went out.

At the Los Angeles convention, Governor Markham, speaking of the great natural resources which the Almighty had given to Southern California and which had been hidden in the unused water and land for centuries, said he believed they were now being developed to the Almighty's entire satisfaction, and why? Why were thirty irrigation districts organized, and why did the population of Southern California increase 327 per cent. between 1880 and 1890, and why do her oranges alone bring her \$3,000,000 a year? Because of the law passed in 1878 by the California Legislature for the investigation of water supply and the encouragement of irrigation enterprises.

Wyoming, in 1891, passed a similar law, and her State Engineer, appointed under that law, issued in 1891 and 1892, 371 permits for the appropriation of water which shall transform a million and a quarter acres of desert into productive farms.

I ask you, gentlemen, if Kansas is keeping up with the procession?

The irrigated lands of Colorado, California, Wyoming, Arizona and other States was as barren as any in western Kansas is now, until the people awoke to the irrigation idea, and the results of irrigation, even where now so successful, are to be more so. Experiment stations are establishing the best amounts of water to use for different crops, thus saving both water and crops, and the farmers are getting larger crops off of smaller farms. The people of western Kansas have shown patience in this matter. They have been snubbed by the Legislature, but largely from the general ignorance of the people in regard to the subject in hand.

Omitting the railroads, the valuation of the west half the State is 36.3 per cent. of that of the whole State. The general appropriations of the last Legislature for the west half of the State were 5.3 per cent. of those for the whole State. The west half was short only \$587,000 of its share. We shall ask the next Legislature for a part of this for the special benefit of that end of the State which is already entitled to it.

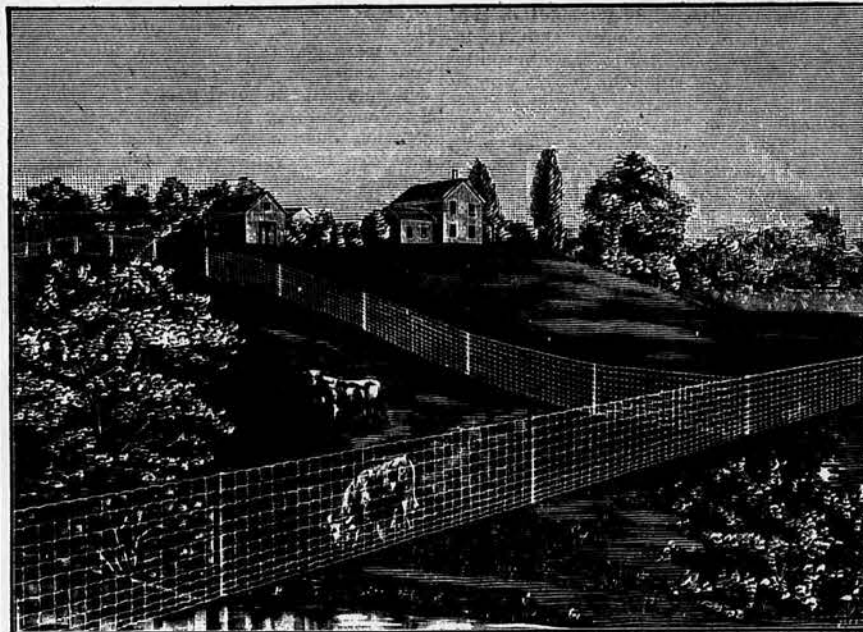
If Kansas has been ridiculed all over the country, if she has lost a host of her

best men—let us hope it is but temporary. Let this association name a committee to prepare a law which shall give us a State Engineer, and which shall do for Kansas what similar laws have done for the other States, and I shall not be satisfied with the development of our natural resources till we have a State Irrigation department; till our water supply has been tested by experimentation; till reservoir sites have been located by intelligent surveys; till wells, tiled canals and high duty pumps shall tap the perennial waters; till dams shall fill canals; till windmills, steam and electric pumps shall be humming like the mills of New England; and till, as a natural consequence, our arid sections shall be filled with a prosperous and contented people; till Kansas shall again stand at the head of the Union where she belongs, and till farming in western Kansas shall mean irrigation—science, not chance.

Page Woven Wire Fence.

A battering ram or a battering bull or any other attacking animal cannot demolish the Page Woven Wire Fence, because "it's not built that way." There is a great strength in the netted wires. It isn't stone-wall strength, but a strength that doesn't injure. If a head of stock bolts against this fence he is thrown back unhurt, just as an acrobat leaps from the dome of a circus and springs lightly up from the net far beneath.

The coiled springs that form the netting keep the fence from sagging and the strain of support off the posts. Coiled spring fencing will stand with no middle posts at all, and requires fewer posts to keep it



A PAGE WOVEN WIRE FENCE.

firm than any other combination. You can rob it of its elasticity—bury it 'neath snow-drifts, weight it down in any manner, and you will find that when the weight is removed it bobs up serenely like our childhood's "Jack-in-the-Box"—straight and resistant as before.

It neither rusts nor rots, but, like its owner, keeps its temper for years and years. The existence of such a fence as this should convince sensible folks forever against that harmful enemy of animal life—barb wire. Something is gained by hooking fish, something is gained, some claim, by whipping horses or dehorning cattle, but to torture a beast by a string of cruel spears which jag him whenever he approaches his limits, is inexcusable brutality.

The Page fence is better than a S. P. C. A. in helping live stock to a happier lot. It's economy, too, is a not-to-be-forgotten fact. If you are interested in knowing more of this fence, write to Page Woven Wire Fence Co., Adrian, Mich., for a copy of their "Coiled Spring Hustler."

Horse Markets Reviewed.

KANSAS CITY.

W. S. Tough & Son, managers of the Kansas City stock yards horse and mule department, report the market as showing the usual activity. Quite a good many buyers with only a fair run of horses. Prices are no better. Fairly good demand for nice Southerners, and shapely, good styled drivers are eagerly sought for, especially if they have a little speed. Extra nice coach horses are still bringing the top prices. Prospects for the coming week are very good. The mule market a little dull. Prices about \$2.50 off. Not much trading except in the tops and larger grades.

Its either Direct Legislation through the INITIATIVE and the REFERENDUM or another Revolution. Which shall it be? For books, information and plan write W. P. BRUSH, Topeka, Kansas.

FRIENDS OF THE PUBLIC

Men of Mark Who Gather and Transmit the News.

AND HOW THEY EXHAUST.

Some Personal Sketches and Incidents of Brain Workers in the Highest Walks of Life.

The reader of the daily paper who sits in his cosy home and is informed of what is transpiring in every quarter of the globe, seldom realizes the amount of actual labor necessary to ascertain, collect, write, transmit and print this wonderful mass of news.

Mr William Henry Smith, formerly manager of the Associated Press, is in the prime of life, and possesses a mind clear as to the requirements of the public. Mr. Smith has always been an arduous worker, and it is by no means surprising that his health should, in the past, have suffered more or less thereby. The mental strain necessary to the performance of his duties caused difficulties of digestion which are not easily overcome, and also a uremic colic, both painful and exhausting. All attempts to overcome these tendencies by force of will power failed, and he consulted eminent physicians, among them Dr. Barthol, of Philadelphia. In spite, however, of the care and skill of these practitioners, he grew worse constantly. The result can best be described in his own words. He said:

"My brother, C. W. Smith, manager of

cle of which they speak is a most valuable one, and such as may be used with great benefit by all who are suffering?

Given High Honors.

The World's Columbian exposition, though now only a glorious memory has left lasting monuments behind. For generations to come its impartial awards will be the basis of determining the comparative merit of the things judged. Few, if any, of the thousands of exhibitors at the fair were more highly honored than William Deering & Co., of Chicago, the world's largest manufacturers of harvesting machinery. Of the total number of twenty-six awards given to the seventeen exhibitors of harvesting machinery and binder twine, this firm was given sixteen awards—sixteen medals and sixteen diplomas. The other ten awards were distributed among four other exhibitors, the highest of these receiving six awards, another two and two others one each.

This supremacy was given to the Deering machines simply because they out-classed all competitors in their records of draft and efficiency as tested in competitive field trials.

Deering machines were given exacting official field trials in Colorado, conducted by the regular judges of farm machinery, appointed and paid by the government. These trials were on irrigated farms where the growth was rank and the land strewn with stones and grid-ironed with irrigating ditches and laterals. Notwithstanding these adverse conditions the Deering Improved Steel binder made a draft record of 14.3 per cent. less, and the Deering Pony binder 16.9 per cent. less than the records made for a competing binder in straight grain, on smooth ground, at Wayne, Ill. Similarly, the Deering five-foot Ideal mower showed a draft 38.8 per cent. lower than the five-foot mower tried at Wayne; and the new Deering five-foot mower 19.5 per cent. lower. The Deering Giant mower showed a saving of 23.7 per cent. over a competing mower of the same size in the Wayne trial.

This remarkable saving in draft made a strong impression on the judges, who could not help realizing its great importance to agriculture. The novel feature of the jointed platform, coupled with the simplicity of the binding attachment and the marked efficiency and evident strength of the whole machine, were all taken into account by the judges in giving their awards for the binders.

In considering the mowers the judges were strongly impressed with the unique adjustable drag bar, the two-piece pitman, the everlasting gears, and the perfection of mechanism which enables these machines to do better work for more years with lighter draft than any other mowers made.

Manufacturers of harvesting machinery and binder twine were especially fortunate in the high character and wide experience of the judges appointed to examine their exhibits. They were Prof. John E. Sweet, for years professor of mechanics in Cornell university, at Ithaca, N. Y., who is recognized as being one of the greatest authorities on mechanical matters in the United States; Hon. Hiram C. Wheeler, of Odebolt, Iowa, one of the largest farmers in that State, who was Republican candidate for Governor of Iowa in 1891, and Mr. Charles Whitney of Illinois, an inventor and mechanical expert of wide reputation.

One of the great events of the exposition which, though having no bearing on the award of prizes, gave Deering machines honors considered by many as even higher than the actual award of prizes, was the famous tour of the foreign commissioners to the bonanza farms of North Dakota. The results of this tour, together with a description of the Deering machines, are set forth in a beautiful book entitled "Why Bonanza Farming Pays," which is sent free on application, by William Deering & Co., to all farmers desiring it.

German Baptist Annual Meeting.

The annual meeting of the German Baptist Brethren will be held at Meyersdale, Pa., on the Pittsburg division of the Baltimore & Ohio railroad, commencing May 24th, 1894.

For this occasion the B. & O. R. R. Co. will sell excursion tickets to Meyersdale and return from all stations on its system of lines at rate of one first-class fare for the round trip. From points east of and including Pittsburg and Wheeling the tickets will be sold from May 22d to 28th inclusive, and will be valid for return passage within thirty days from date of sale.

From points west of Pittsburg and Wheeling the tickets will be sold from May 21st to 28th inclusive, and will be valid for return passage within thirty days from date of sale.

For time of trains, etc., address nearest agent of the B. & O. R. R. Co., or O. P. McCarty, Gen'l Pass. Agent B. & O. S. W. R'y, St. Louis, Mo.; L. S. Allen, Ass't Gen. Pass. Agent, B. & O. R. R., Chicago, Ill.; E. D. Smith, Div. Pass. Agent, B. & O. R. R., Pittsburg, Pa., or B. F. Bond, Div. Pass. Agent, B. & O. R. R., Baltimore, Md.; Chas. O. Scull, Gen'l Pass. Agent, B. & O. R. R., Baltimore, Md.

The Home Circle.

To Correspondents.

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

We Shall Know.

When the mists have rolled in splendor,
From the beauty of the hills,
And the sunshine, warm and tender,
Falls in kisses on the rills,
We may read love's shining letter
In the rainbow of the spray;
We shall know each other better
When the mists have cleared away;
We shall know as we are known,
Never more to walk alone,
In the dawning of the morning
When the mists have cleared away.

If we err in human blindness
And forget that we are dust;
If we miss the law of kindness
When we struggle to be just,
Snowy wings of peace shall cover
All the pain that clouds our way.
When the weary watch is over,
And the clouds have cleared away,
We shall know as we are known,
Never more to walk alone,
In the dawning of the morning
When the mists have cleared away.

When the silvery mists have veiled us
From the faces of our own;
Oft we deem their love has failed us,
And we tread our path alone;
We should see them near and truly,
We should trust them day by day,
Neither love nor blame unduly;
If the mists were cleared away,
We shall know as we are known,
Never more to walk alone,
In the dawning of the morning
When the mists have cleared away.

When the mists have reared above us,
As our Father knows His own,
Face to face with those that love us,
We shall know as we are known.
Love beyond the orient meadows
Floats the golden fringe of day;
Heart to heart we bide the shadows,
Till the mists have cleared away.
We shall know as we are known,
Never more to walk alone,
In the dawning of the morning,
When the mists have cleared away.

—Selected.

MARRIAGE CUSTOMS.

Marriage, in one form or another, is the oldest institution of society, and the source of its most ancient laws. The primitive ceremonies of marriage are of immense number, and many of them have left distinct survivals in modern customs. As regards Christian Europe, in 1085 Hildebrand declared marriage to be a sacrament of the church, and at the Reformation Calvin declared it to be an institution of God. The school of Grotius, on the other hand, describes it as a contract of partnership.

The Anglo-Saxon marriage ritual was for the parties, with their attendants, to come to the porch of the church; here they were met by the priest; first he blessed the ring and gave it to the bridegroom, who placed it on the middle finger of the bride's left hand. After this the priest recited a form of blessing over the parties; then he led them into the chancel, where they remained while mass was celebrated, toward the close of which they received the solemn nuptial benediction, and afterward the pax and the holy communion.

Before the Council of Trent a valid marriage in the eyes of the church might be effected by a simple declaration of the parties to be man and wife; no witnesses were necessary under these circumstances, and the presence of a priest might also be dispensed with. It will at once be seen that a practice such as this was open to very great and grave abuse where the interested parties were only too often the only witnesses of the declaration. After the Council of Trent, and in all countries where the discipline of Trent is received and promulgated, the presence of the parish priest is absolutely necessary to constitute a valid marriage in the eyes of the Roman church by mere declaration of the parties to be man and wife, and under no circumstances can marriages such as these be recognized by the law.

It was customary in many places for the priest to entwine the ends of his stole around the joined hands of the bride and bridegroom at the words, "Those whom God has joined together," in token of the indissoluble union thereby effected. Most probably this practice led to the familiar expression, "tying the knot." Neither the Roman nor the Sarum missals contain any direction for this ritual, which would appear to be a pure innovation on the part of the priests.

In ancient Rome the patrons or patricians only might marry with each other. If a patrician married a client or vassal, their children were not allowed to take patrician rank, because these clients or vassals had not connubial or right of marriage with their patrons. Under Caesar's rule a married woman was allowed the use of more ornaments and more costly carriages than the laws of Rome permitted to women generally. A married man who had three children born in Rome, or four born in Italy, or five in the provinces, enjoyed freedom from certain duties and charges; this, no

doubt, was done to encourage the marriage tie, which, at that time, had become exceedingly lax.

The drinking of wine in the church at weddings is enjoined by the Hereford missal. The Sarum missal directs that sops immersed in wine, as well as the liquor itself, and the cup containing it, should be blessed by the priest. The beverage was drunk not only by the bride and bridegroom but by the rest of the company. A distinct survival of this custom, although in a debased form, lingered beyond the middle of the present century at Whitburn, in Durham, where the custom of giving what they called hot-pots, was kept up; that is, on the conclusion of every marriage service, the bride and bridegroom were served in the porch with steaming compounds of brandy, ale, sugar, eggs, spice, etc. The bridesmaids also partook of this, and the remainder was distributed amongst the guests. The custom of nuptial drinking appears also to have prevailed in the Greek church; and the Jews have a custom at the present day, when a couple are married, to break the glass in which the bride and bridegroom have drunk, to remind them of mortality.

The use of torches at weddings is very ancient. At Rome the practice was that two children should lead the bride and a third carry before her a torch of white thorn. The Greeks also used a nuptial torch, which was carried by the bride's mother. Lamps and flambeaux are used at Japanese weddings, and torches are still used at Turkish marriages.

Knives formerly formed part of the accoutrements of a bride. This is easily accounted for by the fact that anciently it formed part of the dress for women to wear a knife sheathed and suspended from their girdles. A bride says to her jealous husband in Dekker's "Match me in London," 1631:

See at my girdle hangs my wedding knives!
With those dispatch me.

The use of bridesmaids at weddings is of remote antiquity. Amongst the Anglo-Saxons the bride was led to the church by a matron, who was called the bride's woman and followed by a company of young girls, who were called bridesmaids. It was at one time the custom for the bridesmaids to lead the bridegroom to church, and for the bridegroom's men to conduct the bride. This is clearly alluded to in the "Collier's Wedding":

Two lusty lads, well dressed and strong,
Step'd out to lead the bride along;
And two young maids of equal size,
As soon the bridegroom's hands surprise.

The bridegroom's men were anciently called bride knights, which was an appropriate name at the period when they actually fulfilled that office.

Bride cake is of ancient origin; it is a relic of the Roman period, when the marriage ceremony consisted principally of the contracting parties partaking of a cake made of flour, salt and water, in the presence of the Pontifex Maximus or high priest, and ten witnesses. The form of the cake has varied in different ages. Ben Jonson refers to it in the "Tale of a Tub," iii., 8: The maids and her half-valentine have ply'd her, With courtise of the bride cake and the bowl, As she is laid awhile.

It was formerly the custom for brides to go to church with their hair hanging loose behind. Anne Boleyn's was thus disheveled when she went to the altar with Henry VIII. Webster refers to the practice in "The White Devil":

And let them dangle loose as a bride's hair.

Nuptial garlands or wreaths are of great antiquity; they were equally used by both the Jews and heathens. The Roman custom was for the bride to have a chaplet of flowers or herbs upon her head; whilst amongst the Anglo-Saxons, after the benediction in the church, both the bride and the bridegroom were crowned with flowers. In the Eastern church the chaplets used at marriages were first blessed by the priest. Wreaths made of ears of corn were frequently worn by brides in the time of Henry VIII., and myrtle was also much used for this purpose. In many churches it was usual to keep a crown of metal for the use of brides, and for which they would pay a fee.

Marriage by proxy was probably practiced by the heathen Romans, and even so late as the middle ages was not at all uncommon, although then it had become confined principally to the aristocracy, and later on few instances are to be met with except in the case of royalty. Henry VIII. married Anne of Cleves by proxy. So, also, James II., when Duke of York, in 1673, was married by proxy to Mary of Modena. The church always looked with great disfavor on this form of marriage, and for this reason the parties were generally remarried on the arrival of the bride in her husband's country, or at the home of the bridegroom.

Amongst the ancient Northern nations a knot appears to have been considered as the symbol of love, faith and friendship; pointing out, as it were, the indissoluble tie of affection and duty; hence it is that knots or bows of ribbon came to be used as wedding favors, a particular form of which came to be known as the true lover's knot. The peasantry of France wore the bridal favor on the arm, whereas in England it was



THE PROCTER & GAMBLE CO., CHICAGO.

formerly worn in the hat, and consisted of ribbons of various colors; in later years white ribbon alone was used. Curiously enough rosemary was not only carried at funerals, but was also worn at weddings, and appears to have been considered as an insignia of a wedding guest. On these occasions the sprigs of rosemary were frequently gilded or dipped in scented water. Bay leaves were also used for a similar purpose, but not so generally as the rosemary.

Wedding rings were used both by the Greeks and Romans, but then only at the ceremony of betrothal, and not that of marriage. The Anglo-Saxon bridegroom at the betrothal gave a wed, or pledge, and a ring was placed on the maiden's right hand, where it remained until marriage, and was then transferred to the left. During the reigns of George I. and George II., the wedding ring was often worn on the thumb. The placing of the ring on the book is a remnant of the ancient custom of blessing the ring by sprinkling holy water in the form of a cross, and this is still done in the Roman church. One of the earliest forms of rings was the gemel or double ring, and this was used as a pledge before marriage; they were generally made in three parts, and broken in the presence of a witness who retained the third part. In Germany, Sweden, Norway and Denmark it was a common custom for the engaged couple each to give to the other a plain gold ring, much resembling a wedding ring. In the last century wedding rings were frequently inscribed with poems. Dr. John Thomas, who was Bishop of Lincoln in 1753, married four times. The motto or poem on the wedding ring at his fourth marriage, was:

If I survive,
I'll make them five.

King Henry VIII. gave Anne of Cleves a ring with the poem:

God send me well to keep.

It was a general custom in the middle ages for the bridegroom to place the ring first on the thumb of the bride, then on her second finger, and then on her third, at the name of each person of the Trinity, "leaving it," as the rubric directs, on her fourth finger at the word amen, thus signifying by action, not less than by word, that he was undertaking the duties of the married state, "in the name of the Father, of the Son, and of the Holy Ghost." The reason assigned for the fourth finger being appointed as the final resting place of the wedding ring is because on that finger there is generally believed to be a certain vein which proceeds to the heart. The left hand most probably was appointed because the virgins espoused to the church wore the ring of their celestial nuptials on the right hand.—Westminster Review.

In the Cheering-Up Business.

When the hard times began last year it was reported that a clever woman declared that if she had to earn her living she would become a "general sympathizer," going to any one who wished to pour out her troubles and worries, listening and comforting for a fixed sum per hour; the interviews to be strictly confidential, and the professional sympathizer never to allow herself to have pains or trials greater than those of her client. This seemed an odd little fancy, as impracticable as original, until a short time ago, when, reading over the lists which a woman's exchange prepares to meet the wants of its patrons, the eye fell upon this item: "In the cheering-up business. A lady who has had successful experience will read to or amuse invalids or convalescents." Then there is such an occupation, after all, and one which this cheering lady has made successful as well. How does she manage her delicate work? By what cunningly devised means has she bottled up the sunshine which carries its brightness into the lives of those who are strangers to her? And from what founts does she draw sparkling, exhilarating draughts? And who, after she has spent her day in "reading to and amusing invalids and convalescents," cheers her when twilight gives her back to herself?

It is a beautiful and self-effacing occupation, demanding special gifts of tact and sweetness, and calling for keenness of eye and quickness of ear, and also, contradictorily enough, for a certain judicious near-sightedness and mental deafness, which can leave unnoticed and unheard all that tends

to mar the perfect harmony which it is so essential to maintain. Yet while as a means of gaining a livelihood the business is undoubtedly new, it is really an old, very old, vocation, to which from time immemorial women have spontaneously devoted themselves. In the home nest, as daughter and sister, a woman learns to express the sympathy of a loving heart, and in the new relations of wife and mother her opportunities increase immeasurably and unceasingly. Upon the so-called weaker partner has ever fallen the duty of lightening by her ready responsive cheerfulness the burdens borne by her lord and master. When everything down town goes wrong home is made to take on more than its usual attractiveness, and the domestic atmosphere has a soothing calm which refreshes the tired man, whose wife and bairnies are at their brightest when poor papa comes in. A married man is more apt to retrieve his fallen fortunes and to reinstate himself more speedily than the unfortunate bachelor, whose only comfort is that when he puts on his hat his whole family is under it!

It is by no means claimed that women have a monopoly of this inspiring, bliss-imparting quality, yet it is always conceded to be such a right womanly talent that the highest compliment that can be paid to one of the other sex is to liken his powers of sympathy to those of ours. The men whom one must depend on in the dark hours of life, when illness and sorrow and losses depress the most buoyant nature, often possess in the highest degree the power of cheering—physicians, whose mere presence seems to bring healing; lawyers and clergymen, whose help glows with the unaffected goodness of their sunny natures; and others weighted with the exacting cares of business life, who yet have a pleasant word and a bright smile in even the darkest hour of their own troubles.

Blessed be all, of whatever age, sex or condition, who are "in the cheering-up business!"—Harper's Bazar.

Don't wear false hair while it is possible to retain your own. Ayer's Hair Vigor, the best dressing, nourishes and invigorates the hair-roots, cures scalp diseases, prevents the hair from coming out or turning gray, and promotes a new and luxuriant growth.

Lovely Complexion.



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Have you freckles, moth, black-heads, blotches, ugly or muddy skin, eczema, tetter, or any other cutaneous blemish? Do you want a quick, permanent and absolutely infallible cure, **FREE OF COST** to introduce it? Something new, pure, mild and so harmless a child can use or drink it with perfect safety. If so, send your full Post-office address to:

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\$2.75 Buy our \$9 Natural Finish Baby Carriage complete with plated steel wheels, axle, springs, and one piece steam bent handle. Made of best material, finely finished, reliable and guaranteed for 3 years. Shipped on 10 days' trial. **FREE** OF CHARGE: no money required in advance. 75,000 in use. We are the oldest and best known concern of our kind, reliable and responsible. Reference furnished at any time. Make and sell nothing but what we guarantee to be as represented, sold at the lowest factory prices. **WRITE TO-DAY** for our large **FREE** illustrated catalogue of latest designs and styles published.

OXFORD MFG. CO., 340 Wabash Ave., Chicago, Ill.

The Young Folks.

Written for KANSAS FARMER.

Truth.

BY ADELAIDE CRAIG BAUGH.

In the fire-light's flickering glow,
Where the shadows come and go,
In the soft and weird light,
Where the flames leaped up bright;
While gaunt, grim, shadows o'er him pressed,
There the minister sought to rest.

O'er his parish he had gone,
Striving to undo the wrong
Of a gossip's prattling tongue,
Ere the setting of another sun.
Long he rested, weak and weary,
Thinking all the world so dreary.

'Round him, like a softly folded shroud,
Came a faint and misty cloud.
Oh! why must men seek to ruin
The soul of another one?
Why must Truth be held at bay,
And Innocence led astray?

Would it not be better far,
If we could hold the shining star
Of Faith and Charity to all,
And break us from that thrall?
Whilst dreaming, from out the flame
There stepped a stately dame.

Her dress was quaint and old,
And on her head a crown of gold.
"What dost thou seek?" he cried.
Quoth she: "Kind sir, I've tried
For many, many ages past,
And have braved the stormy blast.

Now, if you would seek to gain
Something more than earthly fame,
Strive to help your fellow men.
For Truth, crushed to earth, will rise again,
And the one whose crown shall bear
Truth and Charity on its shining star,

Has won a glorious name,
That far out-shines all earthly fame.
So bear in mind, you must guard
Each thought, and deed, and word."
So saying, she vanished in the flame.
He awoke to find 'twas all a dream.

A GIRL'S PLUCK.

When Lena Scheffer was fifteen years old her father died. She was the oldest of four children. Heinrich was twelve, Mary nine, and Hans five. As you may guess by the names they were German. Mr. Scheffer had come from the Fatherland ten years before his death, and bought the little farm of forty acres. He was a hard-working, thrifty man, and had paid for the farm, built a barn, and made many improvements, besides leaving about two hundred dollars in cash. Mrs. Scheffer was an active woman, anxious to succeed, but was almost a cripple from rheumatism.

Lena was a large, stout girl. She had been going to school winters and summers ever since she was five years old, and as she was quick to learn, had advanced rapidly, and was acknowledged to be "the best scholar in the district."

"I don't know whate'er we shall do," said Mrs. Scheffer, on the first day of March, some two weeks after her husband was buried. It was a warm, pleasant day, and it looked as though spring had come to stay. "You is a girl, unt Heinrich is nicht alt enough to do much. What shall we do?"

"I am a girl, sure enough," said Lena, "but I can do something. Father intended to put the four-acre sod field in corn, didn't he?"

"Yaw," said her mother, "unt the four acres in corn last year, he puts him in oats. What shall we do?"

"Do? Why I'll put them in myself," replied Lena.

"You haf never plowed. You cannot put them in," said her mother.

"I'll show you," said Lena, "and I intend to commence to-day to plow that sod."

Lena was as good as her word. She had a good steady team that would almost do the plowing itself, and in three days she had the sod all turned. Then came a cold spell, and the plowing was not resumed for three weeks. As soon as the ground was dry enough she went at the corn stubble, and that was an easy job. Then she harrowed it, and got it all ready for the drill.

While she was trudging across the field, one day, John Stroup, the son of a neighbor, climbed upon the fence and waited for her. Lena saw him and blushed to the roots of her hair. There was no other person in the world she wanted to see less. She had a notion to turn the team in the middle of the field and go back to the other end. She had a pair of her father's boots on; her dress was ragged and dirty, and her face and hands were none of the cleanest. She was no coward, however, and soon her good sense came to her aid, and she drove bravely up to the fence where John was sitting.

"Good morning," she said. "Did you come over to see how I looked in my work clothes?"

"No indeed," said John. "I came over to borrow your post-hole digger. We are going to build a new yard fence in front of the house."

"O, well, you can have it," said Lena,

"but you will have to go to the house for it. Tell mother it is in the woodshed loft." "No, I'll take the team and harrow till you go and get it," said John. "It'll rest you. It is hard work to trudge across this plowed ground all day."

When Lena returned with the digger John asked her who would sow the oats.

"I thought of going to get Mr. Smith," she replied. "He owes us two day's work."

"Well, I'll tell you how we can fix it. I'll bring our drill over and drill them in if you will come and help mother in the house while I'm at it. I'll have to do it if you don't, and I know you will be worth two of me at that work."

And in this way the oats were put in. Lena prepared the corn ground, marked it out, and she and Heinrich planted it themselves.

There was a good deal of talk in the neighborhood about Lena's farming. A few spoke sneeringly of it, but all the more sensible people whose opinion was of any value, praised her course. At church, on Sunday, Lena was in her place in the choir, neatly and modestly dressed, and though her face and hands were somewhat tanned her voice was as rich and strong as ever. She had an excellent voice that only needed training to excel. John Stroup was also in the choir and stood up proudly by her side, and accompanied her home after service.

It is useless to tell how Lena worked the corn, potatoes and garden vegetables, how she managed to harvest the oats, get in the hay, and put out five acres of wheat in the fall. But she did it, and only paid out about \$20 cash for wages, and this was more than made up from butter, eggs and fowls sold.

Late in October Mr. Stroup came over one evening, and said:

"Lena, we had a meeting of the school trustees last night, and we decided to hire you to teach our school this winter, if you think you can pass the examination."

Lena was taken by surprise, as no such thought had ever entered her brain. She did not reply at once. She thought the matter all over. Finally she said:

"I'll try it. I believe I can pass the examination. There are no large boys to attend this winter, and no scholars as far advanced as I am. If I can get a certificate I believe I can manage the school."

"That's what we thought," said Mr. Stroup. "We knew you were a bright scholar, and any girl who can take up her father's duties as bravely as you did and do them so well, will succeed anywhere you put her."

Lena had no trouble in getting a certificate, and she taught the winter term to the satisfaction of all. She had some trouble at first with three or four of the older boys who thought they could do as they liked with Lena, but she soon taught them better. She conducted herself with dignity, and won the respect of everybody.

Lena did not plow and harrow, or reap or mow, after that first summer. She taught the summer term in her own district, and the winter term again, and hired a man to attend to the farm. She kept this up for four years and then Heinrich took charge of the work, and Lena attended the seminary in town three or four terms, and came out quite an accomplished lady. John Stroup thinks she is none the worse for her summer's farming, and when he speaks of her now he calls her Mrs. Stroup.—Ohio Farmer.

A Ride on the Piano.

"I was loitering around the streets last night," said Jim Nelson, one of the old locomotive engineers running into New Orleans. "As I had nothing to do I dropped into a concert and heard a sleek-looking Frenchman play a piano in a way that made me feel all over in spots. As soon as he sat down on the stool I knew by the way he handled himself that he understood the machine he was running."

"He tapped the keys way up one end, just as if they were gauges, and he wanted to see if he had water enough. Then he looked up, as if he wanted to know how much steam he was carrying, and the next moment he pulled open the throttle, and sailed on to the main line as if he was half an hour late."

"You could hear her thunder over culverts and bridges, and getting faster and faster, until the fellow rocked about in his seat like a cradle. Somehow I thought it was old '36' pulling a passenger train and getting out of the way of a 'special.' The fellow worked the keys on the middle division like lightning, and then he flew along the north end of line until the drivers went around like a buzz saw, and I got excited."

"About the time I was fixing to tell him to cut her off a little he kicked the dampers under the machine wide open, pulled the throttle way back in the tender, and how he did run! I couldn't stand it any longer, and yelled to him that he was pounding on the left side, and if he wasn't careful he'd drop his ash-pan."

"But he didn't hear. No one heard me. Everything was flying and whizzing. Tele-

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder

ABSOLUTELY PURE

graph poles on the side of the track looked like a row of corn-stalks, and trees appeared to be a mud bank, and all the time the exhaust of the old machine sounded like the hum of a bumble bee. I tried to yell out, but my tongue wouldn't move.

"He went around curves like a bullet, slipped an eccentric, blew out his soft plug, went down grades fifty feet to the mile, and not a controlling brake set. She went by the meeting point at a mile and a half a minute, and calling for more steam. My hair stood up straight, because I knew the game was up."

"Sure enough, dead ahead of us was the headlight of a 'special.' In a daze I heard the crash as they struck, and I saw cars shivered into atoms, people smashed and mangled and bleeding, and gasping for water. I heard another crash as the French professor struck the deep keys away down on the lower end of the southern division, and then I came to my senses."

"There he was at a dead standstill, with the door of the fire-box of the machine open, wiping the perspiration off his face, and bowing to the people before him. If I live to be a thousand years old I'll never forget the ride that Frenchman gave me on a piano."—New Orleans Times-Democrat.

Ayer's Pills are recommended by leading physicians and druggists, as the most prompt and efficient remedy for biliousness, nausea, costiveness, indigestion, sluggishness of the liver, jaundice, and sick headache; also, to relieve colds, fevers, neuralgia and rheumatism.

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AGENTS \$75 A WEEK AT HOME, using or selling **PRACTICAL PLATING DYNAMO.** The modern method, used in all factories to plate new goods. Plates gold, silver, nickel, etc., on watches, jewelry, table-ware, bicycles and all metal goods; fine outfits for agents; different sizes; always ready; no battery; no toy; no experience; no limit to plating needed; a great money maker. **W. P. HARRISON & CO.,** Clerk No. 15, Columbus, Ohio.

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RED AND BLACK CREOSOTE PAINT. For Wood and Shingle Roofs, Barns, Out-houses, etc. Guaranteed to outlast any cheap paint made. In barrels, 40c; ½ barrels, 45c; 5 and 10 gallon cans, 50c per gallon. **WE PAY THE FREIGHT!** Write for Circulars and Samples and mention this paper. **W. E. CAMPE ROOFING & MFG. CO.,** Kansas City, Missouri.

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\$8.78 buys a \$65 Singer Style Machine. **\$19.88** buys Highest Grade modern style machine in the world. **25** different styles at intermediate prices. **Warranted Ten Years.** We are the only manufacturers selling sewing machines direct. Liberal terms for securing a Sewing Machine **FREE.** **CHICAGO SEWING MACHINE CO.,** 70 Halsted St., Chicago, Ill.

14 KARAT GOLD PLATE

\$2.75 CUT THIS OUT and send it to us with your name and address and we will send you this watch by express for examination. A Guarantee For 5 Years and chain and charm sent with it. You examine it and if you think it a bargain pay our sample price, \$2.75, and it is yours. It is beautifully engraved and warranted the best time-keeper in the World for the money and equal in appearance to a genuine Solid Gold Watch. Write to-day, this offer will not appear again.

THE NATIONAL MFG. & IMPORTING CO., 334 DEARBORN STREET, CHICAGO, ILL.

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KANSAS FARMER.

ESTABLISHED IN 1863.

Published Every Wednesday by the
KANSAS FARMER COMPANY.

OFFICE:
No. 116 West Sixth Street.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

Address **KANSAS FARMER CO.,**
Topeka, Kansas.

ADVERTISING RATES.

Display advertising 15 cents per line, agate, (fourteen lines to the inch).

Special reading notices, 25 cents per line.

Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

Annual cards in the *Breeders' Directory*, consisting of four lines or less, for \$15.00 per year, including a copy of the *KANSAS FARMER* free.

Electros must have metal base.

Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send the cash with the order, however monthly or quarterly payments may be arranged by parties who are well known to the publishers or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday.

Every advertiser will receive a copy of the paper free during the publication of the advertisement.

Address all orders
KANSAS FARMER CO., Topeka, Kas.

The proportion of wheat used for seed and for bread in the United States from 1880 to 1890 was very nearly as one to five.

In a well-considered editorial in the *New York Sun*, C. Wood Davis finds, from official data, that the United States will probably very soon cease to be an exporter of food products.

The seventh annual convention of the Kansas Christian Endeavor Society will be held in Topeka, May 24 to 27, inclusive. This will be a great meeting. For full particulars write to L. L. Roby, Secretary, Topeka.

Will some of the growers of alfalfa seed write for the *KANSAS FARMER* full directions for harvesting and threshing? There is a call for such information from those who will this year save seed for the first time.

Nebraska comes to the front with the first State fair premium list of the season. Her exposition will be held September 7-14 at Lincoln. For information apply to Robert W. Furnas, Secretary State Board of Agriculture, Lincoln, Neb.

We have received a copy of the proceedings of the Wichita Irrigation convention. This convention was endorsed by the Director of the United States Geological Survey, who was present, as the best irrigation meeting ever held. The proceedings contain his address and thirty others; also the Los Angeles address to the people of the United States upon the irrigation problem, and should be read by every one. Ten copies, \$1. H. V. Hinckley, Box 242, Topeka.

The commercial and financial reports still indicate exceeding dullness of trade and light production. The greatest depression is at the East, and the decline in business at New York is far greater than the average for the country at large. Better times are promised on the passage of the tariff bill. Should this be followed by a measure which would stop the appreciation in the exchange value of money and assure stability in this respect, the people of the country will attend to all other matters necessary to bring speedy and permanent prosperity.

A friend, writing to the *KANSAS FARMER*, expresses the views of many readers when he calls it "the most valuable paper printed in the State." He also has a good word for some of the *KANSAS FARMER* advertisers when he says: "Three years ago I saved \$1 a bushel on buying alfalfa seed by looking in your paper. This year I saved 50 cents a bushel on five bushels by sending to one of your advertisers." Again he hits the nail squarely on the head, when he says: "All subscribers for your paper have the advantage of their neighbors by reading the experiences of others in your paper."

SUGAR'S PROSPECTS.

The varying and uncertain fortunes of the American sugar industry are now enjoying a more pleasing prospect than for many months. For a time the prospect of free sugar without the government bounty of 2 cents per pound provided by the present law, stared producers in the face. But the sugar manufacturers knew well the value of importunity and of the various influences by which legislation is affected. They sent their shrewdest men to Washington. These sought out the friends of their industry—those who believe that by protection a domestic sugar industry may be developed capable of furnishing the sweetening needed by the people of the United States. They took care to awaken lively interest in these friends by the usual methods of the politicians, not scorning to find employment for dependent relatives and political creditors of those whose active interest seemed important. They not only provided rewards for their friends, but they also presented the prospect of punishment for their enemies in the various ways known to the skilled lobbyist. The reward of their labors so far is the understanding that the Senate will provide a protective tariff of 40 per cent. on all sugar and an additional specific duty on refined sugar. This is not what the sugar people wanted and their "friends" are rather afraid that they are not quite satisfied with this half loaf instead of the fixed duty of 2 cents per pound demanded in place of the 2 cents bounty received under the McKinley law.

Whether the managers in the House are jealous of the attentions bestowed on the Senate by the sugar lobby may be a question after the recent action of the committee on rules whereby it provides unusual methods whereby bills may be amended so as to strike down the sugar tax. But whether or not this action is intended as notice that the sweets must be passed around among certain members of the House, certain it is that the managers who succeeded so well with the Senate will not fail to "notice properly" the importance and influence of their friends in the House, and it may now be put down as settled that with some show of fight against it, provision for the protection of the sugar interests will be on the statute books at the conclusion of the present session of Congress.

This is a matter of some importance to Kansas and assures the continuance of this State in the list of sugar-producers. But until some settled policy as to the taxation of foreign or of bounty as to home-grown sugars shall have been adopted, there will not probably be any considerable investment in new enterprises here.

WHAT IS DONE WITH OUR WHEAT?

The distribution or disposition made of the ten crops of wheat grown in the United States from 1881 to 1890, inclusive, has been figured out by the *Prairie Farmer*, and, while its estimates will not be accepted by some prominent statisticians as entirely correct, they serve to illustrate an important subject. According to these estimates, of each 100 bushels produced during this time there was used for—

Seed.....	12 1/4 bushels.
Domestic consumption.....	61 1/4 "
Export.....	26 1/4 "
Total.....	100

The amount exported amounted to rather more than the amount stated but this was made possible by the considerable reduction in the reserve stock left on hand at the close of the cereal year 1890, compared to that with which the year 1881 began. The amount actually exported amounted to about 27 per cent. of the entire production for the period.

The estimates of consumption are based on the assumption that 4 1/2 bushels per capita per year meet these requirements. This is the estimate made several years ago by the United States Department of Agriculture. Later investigations have indicated that this figure is too low and the *Cincinnati Price Current* places consumption at 4.8 bushels per capita.

The population of the United States May 1, 1894, was estimated at the

Treasury Department at 68,153,000. The rate of increase is such that the average for the next cereal year will be about 69,000,000. To feed these millions will require about 331,000,000 bushels of wheat, and if it be assumed that the relation of seed to consumption will be the same as the average of the ten years, 1881-90, about 66,000,000 will be required for seed, making the total domestic requirement 397,000,000 bushels or 1,088,876 bushels per day.

Estimates for this next crop of wheat have not yet been made. Last year's crop is now put down as having been 460,000,000 bushels. Should the growing crop be no larger than last year's, we shall evidently have very much less to export than has been our contributions to foreign markets during each of the last several years.

The low price of wheat has caused unprecedented quantities to be used for feeding stock, and we apprehend that when the facts become known the amount so disposed of will be found to be surprisingly large, and may even be sufficient to consume the surplus should prices continue as low as at present.

POSERS.

EDITOR *KANSAS FARMER*:—(1) Please state through the *FARMER*, how much gold, and its fineness, in a gold dollar, and its value. (2) Also, who pays the duty on goods imported into this country? J. W. BIVINS, Peotone, Kas.

(1) The gold dollar of the United States contains 25.8 grains of metal, nine-tenths of which is pure gold, or as it is often expressed, 25.8 grains of gold, nine-tenths fine. The value of this, on account of its use in the arts, is probably not great, but on account of its legal relations to money its exchange value is great and growing.

(2) We greatly fear our correspondent is trying to get us into party politics by his second question. It would be an easy matter to prove by authoritative statements of free traders in this country that the consumer pays the duty. Just as easily may it be proven by authoritative statements of protectionists that it is the foreign producer who pays the duty on almost all imported articles.

The truth is that import duties are paid and constitute a part of the expense of the passage of products from producer to consumer when these reside on different sides of the political lines at which duties are laid. In the case of some articles this burden falls entirely on the consumer; in others on the producers, and in others it is divided.

COST OF WHEAT AND CORN.

The Department of Agriculture has made some special investigations as to the relative cost of raising wheat and corn. The results are obtained from estimates made by 25,000 farmers in the case of wheat and over 28,000 in the case of corn. In connection with these reports advices were received from 4,000 graduates of various agricultural colleges now engaged in farming and the second result, it is stated, tallies very closely with the reports of the practical farmers. In New England the cost of raising wheat is \$20.22 per acre, and corn \$28.03 per acre. In the Middle States it is \$18.18 per acre for wheat and \$21.53 for corn. In the Western States the total for raising wheat is \$10.89 and for corn \$11.08, on the Pacific coast \$13.98 for wheat and \$18.36 for corn. The average of the entire country is given at \$11.69 for wheat and \$11.71 for corn. By the statistician's report in December the average value of wheat per acre was \$6.16 and corn 8.21, showing a loss of \$5.53 for wheat and \$3.50 for corn. In this estimate the value of straw and the stalks of corn is not taken into consideration. The State giving the smallest cost price per acre is South Dakota, \$8.50 for wheat, and Kansas \$8.60 on corn. Into this statement is figured rent on the land and cost of manure. A great many farmers do not take these two items into consideration.

Eli Benedict, of Medicine Lodge, Barton county, writes of a tremendous rain which has given the farmers deep mud where they before had deep dust. The lister furrows were filled up so as to make replanting necessary. But

Mr. Benedict thinks they will be able to raise two crops yet this season and will have corn, hay and oats to give away. If they had back the cattle which they sold low to get out of the business, he thinks their happiness would be complete.

HOW IT HAPPENED.

The *Boston Cultivator* has explained to its readers how it happened that some Eastern investors were taken in on some Western loans. It should have further stated, however, that the schemers who did the "taking in" for the most part never became permanent citizens of Kansas, but merely established a temporary residence, and that they long ago departed for pastures new. The *Cultivator* observes:

Some of the bogus farmers in western Kansas, who took up wild land and raised all the money they could before abandoning it, have some excuse for their acts. They were themselves the victims of money sharks, who had sold them out of improved farms for which they had worked years, and which sold for far less than they were fairly worth. In a cut-throat game they doubtless thought that all tactics that could win were allowable. If Eastern money lenders who sent their money west for high rates of interest had stopped to think, they should have known that such interest rates could not be safely paid. Some one must be cheated. So long as money was loaned on improved land it was probably the farmer who suffered. After that it is scarcely to be wondered at that the man who had been stripped of all should recover a part if he could.

EIGHT MONTHS FOR 50 CENTS.

Prices are low and money is scarce. The *Kansas Farmer Co.* appreciates the situation and will send the "old reliable" *KANSAS FARMER* to new subscribers on trial from now until January, 1895, for 50 cents.

We want every subscriber or a boy or girl in the family to send us at least one new trial subscriber on this proposition, and, to make it mutually interesting and show our appreciation of the friendship of those who take an interest in thus extending the usefulness of the "old reliable," we authorize the person sending in the new 50-cent trial subscription to keep 25 cents of the money.

Now see the neighbor who is not taking the *KANSAS FARMER*, get his subscription for the remainder of the year for 50 cents, keep 25 cents, send us 25 cents, and we shall all be happy. Remember, there is no party politics in the *KANSAS FARMER*.

Our 100,000 farmers, regardless of their political belief, need this paper in order to prosper better in their business, and the publishers of the *KANSAS FARMER* propose to respond to this need, regardless of expense, in order to demonstrate our belief that all such will become permanent subscribers.

STORING WHEAT.

In some portions of the United States it is desirable in case grain is to be held to have it stored in an elevator in some market town, or at least at a railroad station. The condition into which the roads are liable to get at the time the farmer may want to sell his grain is a large consideration in favor of this plan in the States bordering on the Mississippi river, but is a far less potent argument in Kansas. The advantage of having the grain in position to be immediately placed upon the market in case of a "corner" is an artificial one but none the less real, and has led some farmers to store grain in elevators which could have been held almost without expense in the granary on the farm.

No opinion is here intended as to the wisdom or unwisdom of the policy of holding grain. The experience of the last few years has been decidedly against it, but in the same sense that it has been against the policy of holding any kind of property during the time that money was being forced up in purchasing power. In the following example the fact that the price of wheat fell from \$1.01 to 57 cents exaggerates the illustration. But aside from this the showing is decidedly against long holding in elevators. The following is from the *Rural World*:

In the latter part of August, 1891, eight cars of wheat were received by a St. Louis commission man from a country customer. The commission man was bid \$1.01 for this wheat, which graded No. 2 red, who left

the bid open until 11 o'clock the next day, as the shippers had limited their St. Louis representatives to \$1.05 as the selling price. The latter notified his customers of the bid, but they refused to accept that price. Since then this wheat has been carried along for them until Thursday, April 19, when the commission man received orders to close out the wheat, and if any proceeds were left after paying all charges to remit them to the original owners. In consideration of the length of time the wheat had been in their houses and the loss to the owners, the United Elevator Co. paid 57 cents, 2 1/4 cents above the regular market, for this wheat. When the account sales were made up it was found that the net proceeds averaged just about 5 1/2 cents per bushel, a loss of nearly 96 cents per bushel from the price obtainable thirty-two months ago, the charges for carrying the wheat having literally eaten up nearly all the worth of the wheat. To show the charges a copy of the account sale for two cars of this lot is given below:

ST. LOUIS, MO., April 21, 1894.	
No. 5, 924.	
Sales of 2 cars, 560 sks. wheat, Inspector No. 2,	
dumped in elevator, account of —	
Received Aug. 29, 1891, per Mo. Pac. R. R., 324	
sks. wheat.	
20,272, 45.904 less 324—45,280—	
754 40-100 bu. at 57c.....	\$430 16
Certificate No. 6,922 in Central "A."	
Car 236 sks. wheat.	
1,549, 31,736 less 236—31,500—	
525 bu. at 57c.....	299 25
Certificate No. 6,921 in Central "A."	
	\$729 41
CHARGES.	
Freight, 7 1/2 per 100.....	\$58 00
Inspection 1/4c. per sack.....	2 80
Dumping 1/4c. per bu.....	6 89
Sack here, 3c. per sack.....	16 80
Insurance in elevator.....	76 80
Elevator storage, 3 1/2 months, 1 1/2.....	455 65
Interest on charges advanced.....	28 90
Commission 2 1/2 per cent.....	18 25
Total.....	\$663 59
Net proceeds.....	\$85 82
E. and O. E., April 21, 1894.	

Kansas Crops.

The April crop report of the Kansas State Board of Agriculture, issued May 5, says:

Every day since the report on crop conditions of one month ago has been a day of notable improvement, agriculturally, in every Kansas county. All parts of the State have been visited by gentle rains (many portions from three to six or more times), which, while sufficient to put the soil in the best possible state for working, were not at any time so heavy or long continued as to delay work. As a whole, the month has not been a warm one, and although the growth of vegetation has been of a steady, healthy character, it was not nearly so rapid as would have resulted from a continuously higher temperature. It has been a period of steady plowing and planting, under weather and soil conditions as favorable as the farmers of any region need ever hope for, and May, 1894, opens upon them with unusually bright promise of bountiful crops. This does not imply that in numerous counties much of the winter wheat sown will, because of an unfavorable fall or winter, give but a poor return and in not a few instances none at all; but it is a fact not to be overlooked that the ground where such wheat has failed has been at once available in the best possible tilth for the uses of corn or other desired crops, to which it is rapidly being planted.

WINTER WHEAT.

Rains and favoring weather have caused a development most gratifying; fields that in many counties a month ago were regarded as worthless now indicate a partial crop from a scattering stand of healthy plants; great areas previously promising but supposed to have been much, if not fatally injured, by the freezing weather after March 20, appear as practically unharmed, and this, with that not suspected of any such damage, is now variously described by correspondents as "good," "fine," "very good," "better than average," "looks well generally," "condition 150 per cent.," "prospect for a big crop extra good," "better than for several years," "splendid," "superior," "all right," and "best in twenty-five years."

The counties from which the most highly favorable reports come are Allen, Anderson, Atchison, Bourbon, Brown, Chase, Chautauqua, Cherokee, Coffey, Crawford, Dickinson, Doniphan, Douglas, Elk, Ellsworth, Franklin, Geary, Jackson, Jefferson, Jewell, McPherson, Johnson, Labette, Leavenworth, Linn, Lincoln, Lyon, Marion, Miami, Mitchell, Montgomery, Morris, Nemaha, Osage, Osborne, Ottawa, Pottawatomie, Riley, Saline, Sedgwick, Shawnee, Wabaunsee, Washing-

ton, Wilson, Woodson, and Wyandotte, while Clark, Greeley, Hamilton, Ness, Norton and Wichita, report their former poor prospect vastly improved.

These statements, applicable as they are to portions of the State producing great quantities of wheat, do not obscure the fact that in other portions the crop at best can amount comparatively to but little, the plants yet alive being so scattering as to constantly suggest the question as to whether the ground might not wisely be replanted to other crops.

Reports of correspondents quite unanimously agree that the freeze in March did but a fraction of the injury feared at the time, and that practically all damage or failure sustained has been due to poor germination from dryness of the soil in the fall and the consequent later blowing of it from the plant roots, causing them to perish. The indications are that the hard wheats have withstood the adverse conditions much the best.

Chinch bugs are reported in various localities, but in scarcely a single instance as doing any damage whatever. No mention is made of any other insects.

SPRING WHEAT.

The area sown to spring wheat, as reported by correspondents, is less than that of last year by about one-fourth. Dry weather at the time of seeding prevented early germination; the cold period late in March retarded growth and reduced its vitality. Counties having the largest acreage report the prospect not more than fair.

RYE.

The conditions pertaining to winter wheat have been and are closely applicable to rye. In some localities the prospect is good, while in others but moderate.

OATS.

The acreage of last year was 1,758, 127; reports point to a decrease from this of about 15 per cent. and a condition which is 65 per cent. of a good average. Not a little of the ground sown to oats will yet be planted to corn or other crops.

CORN.

The uniformly favorable weather and soil conditions throughout the entire corn belt of the State during nearly or quite all of April have afforded a season well nigh unprecedented for the planting and germination of corn. An unusually large proportion of it is already in the ground; in the southern counties many fields are receiving their first cultivation and show a most satisfactory stand. In the central and northern counties the situation is equally encouraging, although work and growth are somewhat less advanced. The acreage planted will undoubtedly be very large, and augmented, too, by much ground upon which winter wheat has failed and where oats and spring wheat have been seriously harmed by March cold. Reports indicate that in Kansas the lister has become the corn-planting machine of the day and has, at least for the time being, in a great measure superseded all others.

GRASSES.

Pasturage in all portions of the State is rapidly coming forward and already sustains the live stock. Tame varieties of grasses are much the most advanced.

FRUIT.

Late varieties of apples as a whole are, perhaps, as promising of a good crop as in the most favorable of previous seasons, the injury supposed to have been wrought by cold in March proving but slight except as to the earlier sorts. The same description applies to late and early cherries. Peaches, as noted a month ago, were destroyed by cold.

In order to secure the additional circulation to which the KANSAS FARMER is entitled by virtue of its intrinsic excellence, the publishers have this week made a sensational introductory offer for the remainder of the year. Every boy in every subscriber's family ought to make from his commissions on this offer enough money to pay all of his Fourth of July expenses and buy his mother a new dress besides.

Weekly Weather-Crop Bulletin.

Issued by the United States Department of Agriculture, in co-operation with the Kansas State Board of Agriculture, for the week ending May 7, 1894, T. B. Jennings, observer:

The temperature has been above normal over the entire State. In the eastern division there was 46 per cent. of sunshine, in the middle division 53 per cent., and in the western 75 per cent.

There were light rains in the western division and in the extreme northern counties of the eastern division, while over the rest of the State heavy rains have fallen; in the southern and southeastern counties were heavy rains. The rainfall of several stations is as follows: Independence 3.00 inches, Wichita 2.50, Fort Scott 1.76, Kiowa 1.47, McPherson 1.04, Abilene 1.29, Topeka 1.28, Olathe 1.01, Atchison 1.09, Hays City 1.05, Macksville 1.17, Ness City .83, Concordia .70, Colby .32, Allison .17, Dodge City .18, and Garden City .04. There was a very heavy hail storm in Lyon, Osage and Coffey counties on the 4th.

It has been a fine growing week for all crops. In the eastern division wheat and rye are looking exceedingly well and are heading out in the southern counties.

In the middle and western divisions the wheat and oat fields that were not plowed up are doing well. Rye, barley and alfalfa are also in good condition.

Corn planting is nearly finished and much of it is coming up with a good stand. In the southern half of the State corn is being cultivated except in the southeastern counties, where it has been too wet to work in the fields. Potatoes and gardens are doing well. The fruit crop is generally promising. Pastures and meadows are well forward and all stock are now thriving on grass.

Fruit Prospects.

KANSAS.

F. C. SEARS, Manhattan.—Strawberries promise well. Currants and gooseberries promise little fruit. Raspberries and blackberries fair. The indications are that the apple crop will be above the average. A few early sorts were damaged by the cold weather, but most sorts are unusually full of blossoms. No peaches at all. Apricots were destroyed by the cold weather. Earlier sorts of plums were destroyed; later sorts now in full bloom. Cherries promise a full crop. The promise for grapes is rather above the average.

A. S. PARSON, Garden City.—The present outlook for strawberries and other small fruits was never better. Apples are safe, yet, and the crop has the appearance of being the best we ever had. No peaches. The prospects for grapes are good.

FRANK HOLSINGER, Rosedale.—The outlook for strawberries is very poor; I do not think it can exceed one-fourth crop. Raspberries are in still worse condition. Blackberries are better, say 75 per cent. With apples I think the promise is an abundant crop of most late sorts. No peaches. Plums are still O. K. Cherries are blooming nicely. Apricots are killed. Vineyards are splendid; a full crop may be expected. Some of our orchardists are already spraying with fungicides. Most truck gardeners have lost first planting.

F. WELHOUSE, Fairmount.—At this time the prospect for an apple crop is good.

LEVI BISHOP, Attica.—Berry crop will be light. Peach crop was thought to be all killed, but young trees just coming into bearing promise fruit enough to supply home demand. Apricots all killed. Cherries, pears and plums are full of bloom. Apples not damaged. Grape vines are in fairly good condition.

E. F. WALTER, Wakefield.—Strawberry crop will be very light. Raspberries will not average more than half crop. Blackberries promise a full crop. Apples, with the exception of a few varieties, are uninjured and promise a large crop. Peaches and apricots are a total failure. Plums promise a good crop. Cherries promise the largest crop for years. The wood growth in the vineyard was poor and prospects are only fair.

OKLAHOMA.

FRANK WORCESTER, Pond Creek.—Every settler here seems to vie with his neighbor in the amount of orchard he plants. The weather is seriously against planting, and will reduce my own plant somewhat.

PROF. F. A. WAUGH, Stillwater.—Strawberries promise an abundant crop. Other small fruits look well. There will be a few apples in this section, but most of the trees are too young to fruit heavily. Peaches are nearly all killed. Apricots ditto. Vine-

yards are in extra fine condition, and a good crop is fairly expected. Insects are numerous but plant diseases are few.

MISSOURI.

C. W. MURTFELDT, Kirkwood.—Strawberries about a half crop. Prospects for other small fruit very poor indeed. Of apples there will be only a few late bloomers. No peaches. Too early to estimate the vineyard. No vegetables hurt.

SAMUEL MILLER, Bluffton.—The prospects for the strawberry crop are fair. Other small fruit will be half a crop. The crop of apples does not promise over one-fourth. Peaches all killed. No apricots. Plums and cherries one-fourth crop. Vineyards are badly damaged. Our private gardeners had all their early vegetables frozen.

STEPHEN BLANCHARD, Oregon.—Strawberries will not be more than half crop. Outlook for other small fruits fair. Indications are that the apple crop will be abundant. Peaches and apricots all killed. Grapes promise a good crop.

J. H. LOGAN, Nevada.—I think we may expect 20 per cent. of an apple crop. Plums will not be over 20 per cent.; strawberries 40 per cent.; raspberries 35 per cent.; blackberries 100 per cent.; grapes 100 per cent. No peaches. Early planted potatoes are frozen or rotted. Market gardeners have sustained heavy losses.

Publishers' Paragraphs.

Everybody wants to save money these close times. To this end it will pay you to send a postal card for free illustrated price list of groceries and other household and farm supplies, to Jacoby Bros., St. Louis, Mo.

J. W. Darrow's popular poultry book, "Five Hundred Questions and Answers," has just gone through another edition and been revised. Eighteen thousand of these valuable books have now been printed, which is praise enough. Sent to any address by KANSAS FARMER, on receipt of price, 25 cents.

"The Story of the Commonwealth" is the name of a book just published, containing a full and graphic history of the rise and progress of the phenomenal movement of unemployed men towards Washington. The book is the work of Henry Vincent, editor of the Chicago Express, and is published by W. B. Conkey Company, Chicago. Price, 50 cents. It is profusely illustrated with fine portraits of the leaders and prominent men in the movement and many of the scenes with which the reading public has become familiar.

Just now, when armies of unemployed men are congregated in and around Washington, and when hundreds are making their way thither, the article of Harry E. Kelly, entitled "A Precursor of Anarchy," which appears in the Chicago Magazine for May, will receive more than passing attention. The writer ably sets forth the weaknesses of our present government, claiming that they inhere not in our constitution or in our system of government, but in the representatives who are sent to Washington and to our State capitals to legislate in the interest of the people, but who with few exceptions devote their energies to schemes of self-aggrandizement, political intrigue and the advancement of the interests of private enterprises. The arraignment is a severe but just one. 15 cents per copy; \$1.50 per year.

THE BOOK OF THE FAIR.—We have taken occasion at different times to call attention to this work, published by the Bancroft Co., Auditorium building, Chicago. Knowing the value of it we take pleasure in recommending it. It is not only a book of pictures but complete descriptions. The work presents all the features of the fair, artistic and industrial—paintings and statuary, and the marvelous contents of the halls of Manufactures, Electricity, Transportation, Machinery, Agriculture, Horticulture and Fisheries, besides the State and national buildings of American and foreign exhibitors as all appeared during the summer of 1893. The exhibition was but for a moment, comparatively, while the "Book of the Fair" is for all time, and it should be in every household. Write them for prospectus.

Attention, Swine Breeders.

EDITOR KANSAS FARMER:—Wishing to call the attention of the Executive Board and members of Kansas Swine Breeders' Association, to the fact that arrangements must soon be made as to where our annual meeting will be held (which I think should follow the fair to Wichita), also to the fact that all Eastern swine shows are having premium lists read, "male and three females," same as at World's Fair, instead of "four females," as before, and we should see to it that our fair does the same. It makes competition sharper and herds less cumbersome to handle. All animals should also be recorded before showing. Hoping to hear from officers and members of the association, I am, respectfully,

WILLIS E. GRESHAM,
Secretary Kansas Swine Breeders' Association.

Horticulture.

HORTICULTURAL CATECHISM.

(Continued from last week.)

Question 65. What groups of insects never do any direct harm in their perfect state?

Butterflies and moths.

66. How can we learn to associate the perfect form of the insect with its larva and pupa?

By rearing the larva in some place of confinement, like a box or jar, feeding it on the sort of leaves on which it was found, taking care that it is not disturbed or injured while in the pupa or resting stage, and by slightly moistening the leaves or earth in which it reposes, from time to time, until the winged moth, butterfly or beetle appears.

67. How may insects be best preserved for exhibition in the school-room?

Insects in their perfect stage should be first killed by chloroform or gasoline, and while they are still soft, pinned through the thorax to a piece of cork or soft wood, and carefully dried. Each specimen should be labeled with its common, and, if possible, with its scientific name, and also with the date and place of its capture. All larvae can be preserved in small bottles or phials in alcohol reduced by one-fourth water and tightly corked, and must also be labeled.

68. What is an insecticide?

Any poison or other application that is known to kill an injurious insect, such as Paris green or London purple, which, mixed with a large proportion of flour or thoroughly stirred in water, are either dusted or sprayed upon leaves and fruit, and, being eaten by the insects, cause their death. Other insecticides, like pyrethrum powder, kerosene emulsion and various soaps, kill insects like tree bugs, bark lice, aphids or plant lice by contact with the surface, which these applications either eat into or glaze over, or upon which they produce paralysis.

69. What science treats of plants and plant growth?

Botany.

70. What is meant by class, order, genus, species?

The botanical divisions or classifications of all plants by which they can be identified.

71. What are root, stem, leaves, flower, calyx, sepals, corolla, petals, stamens, anthers, pistil, ovary?

The root is that part of the plant which grows in the ground.

The stem is that part which grows from the root and from which the branches grow—the body.

The leaf is the expanded bud, the growth of the bud, the lungs of the plant.

The flower is the modified leaf which produces the fruit—the combined calyx, corolla, sepals, petals, stamens, pistil and ovary.

The calyx is that portion of the flower which surrounds and holds the flower proper.

The sepals are parts of the calyx.

The corolla is the bloom itself, the colored portions of the flower.

The petals are parts of the corolla.

The stamen is the male organ of flowers.

The anther is that part of the stamen containing the pollen or fertilizing dust.

The pistil is that part which carries the pollen to the ovary.

The ovary is the seed pod.

72. What is pollen?

The yellowish dust which comes from the anthers, which fertilizes the flower.

73. What is fertilization of flowers? The pollen, falling upon the pistil of the flower, causing it to form seed.

74. What is meant by the sap of a tree?

The vital circulating fluid inside the tree, which causes the tree to live and grow.

75. What causes a knot on a tree? A branch always causes a knot in the tree, and any obstruction of the flow of sap will usually cause a knot also.

76. What is a tree?

A plant with woody structure, body and branches, and generally more than ten feet high.

77. What is meant by a bulb?

The large root or root stalk, above or

below ground, from which the growth takes place, like a bud; a bud or buds, like the onion or tulip.

78. What is a tuber? A fleshy, rounded, solid stem or root, usually containing starchy matter, like the potato.

79. What is meant by seedling? A plant grown from the seed.

80. What is meant by a cross? A flower of one species fertilized by the flower of the same species produces a cross.

81. What is meant by a hybrid? A flower of one species fertilized by a flower of the different species produces a hybrid.

82. What is a botanical garden? Where plants, shrubs and trees are arranged botanically; that is, in groups or families, species and varieties, usually for the purpose of study.

83. What is a greenhouse? A house which is covered with glass and so arranged as to control the temperature, in which plants are grown.

84. What is meant by a florist? A man who makes it his business to grow flowers, plants and shrubs in greenhouses.

85. What is the best location for a flower garden?

Southeast exposure, with protection on the north and west.

86. Name twelve hardy shrubs for outdoors.

Hydrangea, althea, syringia, snowball, forsythia, lilac, deutzia, spirea, purple fringe, weigelia, white fringe, pyrus japonica.

87. Mention some hardy flowers for country homes.

Perennial phlox, iris, peony, yucca, grass pinks, crocus, hyacinths, tulips, lilies, hollyhocks.

88. Name ten best hardy roses for outdoor blooming.

Prairie Queen, Baltimore Belle, General Jacqueminot, Paul Neyron, General Washington, Mad. Chas. Wood, Marshall P. Wilder, John Hopper, La Reine, Anna des Diesbach.

89. Name ten best roses of ever-blooming varieties.

La France, Hermosa, Appoline Washington Noisette, Duchess of Albany, Souvenir de Wootton, Agrippina, The Bride, Clothilde Souper, Perle des Jardines, Duchess de Brabant, Monthly Cabbage.

90. Name ten chrysanthemums.

Gloriosum, W. H. Lincoln, Kioto, Ivory, L. Canning, Puritan, V. Morel, Mermaid, V. H. Hallock, Ariadne.

91. What climate is noted for the most luxuriant growth of flowers?

Tropical and semi-tropical.

92. What is meant by a commercial orchard?

One grown purely for market purposes, usually of a large area.

93. What is the king of all fruits in the United States?

The apple.

94. What takes place when fruit rots? Decay and decomposition of the cells takes place and fermentation spreads this decay to all parts of the fruit.

95. Why cannot fruit stand freezing?

Because it ruptures the cells of the fruit and decay takes place.

96. What takes place when fruit juice turns to vinegar?

Vinegar is formed when the fruit juices are developed or turned into a certain per cent. of acetic, malic and tartaric acids.

97. What works on horticulture should the student horticulturist read?

Gray's Botany, Downing's Fruits and Fruit Trees of America, Thomas' Fruit Culturist, Barry's Fruit-Growing, Fuller's Small Fruits, Henderson's Gardening, Henderson's Flower Garden, Packard's Insects, Miss Murtfeldt's Outlines of Entomology, Huxman on the Grape, Hoope's Book on Evergreens, Long's Landscape Garden, Ellwanger on the Flower Garden, Bailey's Horticultural Rule Book.

98. What about Missouri as a fruit State?

Missouri is peculiarly adapted to fruit-growing, because of the geological formation of the soil, the climate, and the close markets.

99. What position does Missouri occupy as a fruit State?

In value of her fruit products Missouri ranks fourth.

100. This work will accomplish its

purpose when it guides the inquiring minds into channels of thought and assists them in reaching practical results in the horticultural art.

How to Grow Sweet Potatoes.

Hon. J. B. Schlichter, who has had extended experience in the growing of sweet potatoes, gives the following directions in the *Sterling Bulletin*:

1. Soil.—To grow good sweet potatoes there must be soil adapted to them. Sandy soil is what they delight in. A light, black sand is best. The sand that drifts is good, provided you can keep it from drifting.

2. Preparation of the Soil.—It should be plowed shallow—not over four inches; three inches is better—early in the spring, so as to give it time to pack before ridging it. If there be any trash in it, such as corn stalks or dead weeds, it should be all cleaned away before plowing. It should be harrowed immediately after plowing, to prevent it from becoming lumpy.

3. Ridging.—This can be done with an ordinary lister, the ridges made a little wider than ordinary corn ridges, so that the rows will be almost four feet apart. The ridging should be done immediately after a rain, while the surface is yet damp; for if the ridging be done when the surface is dry there will be too much dry earth in the ridges, and it will be difficult to make your plants grow without copious watering.

4. Planting.—It is important to procure good, strong plants direct from the beds of the grower. If this can't be done get them from dealers who have them fresh from the grower. Plants that have been wilting in front of the grocery store for three or four days had better be left there to cure for hay, for at least 50 per cent. of them will die in spite of the best management. If the ridges have been made for some time before planting, they should be raked before planting. If they are thrown up fresh, so that the surface is moist and mellow, the raking is not necessary. The plants should be set fifteen inches apart in the row. A common mason's trowel is the best tool to set them with. Hold the trowel in the right hand, plunge it in the soil, leaning forward in the direction with the row, then draw it back, holding the plant in the left hand between the thumb and two fingers; while the trowel is being withdrawn from the soil the plant is inserted in the opening thus made. The inserting of the plant and pressing the earth around the roots is done with the same motion. An expert with a trowel can set the plants as fast as a boy can lay them down for him. When a trowel is not at hand the ground can be opened with the right hand and the plant set with the left hand. Some set them with a small forked stick. By this method the plants are laid lengthwise on the middle of the ridge at proper distances. The plant is caught at the lower end with the fork and thus punched into the soil and the earth is pressed about it with the other hand. An experienced hand will set plants by this method as fast as two boys will properly lay them down.

5. Watering.—If the soil is very dry watering is very important. But usually, when the plants are at ready command, the planting can be done soon after a shower. If the roots are wet or puddled and set into damp earth they will need no watering. If plants are properly set there will be a depression about the plant, forming a basin to receive the water. After the water is soaked away a little dry earth should be sprinkled upon the wet surface to prevent baking.

In planting, the earth should be set firmly about the roots. This is very important in setting all kinds of plants and trees. If the plant is easily pulled out after it is set the work has been poorly done.

Concerning the after cultivation we may have something to say in the future.

An Expert's Experience.

Dr. J. W. Mullens, D. V. S., writes: "I have got mares in foal barren for twelve years, by using the Perfect Impregnator, bought of Spec. Mfg. Co., Carrollton, Mo."



A Bright Lad,

Ten years of age, but who declines to give his name to the public, makes this authorized, confidential statement to us:

"When I was one year old, my mamma died of consumption. The doctor said that I, too, would soon die, and all our neighbors thought that even if I did not die, I would never be able to walk, because I was so weak and puny. A gathering formed and broke under my arm. I hurt my finger and it gathered and threw out pieces of bone. If I hurt myself so as to break the skin, it was sure to become a running sore. I had to take lots of medicine, but nothing has done me so much good as Ayer's Sarsaparilla. It has made me well and strong."—T. D. M., Norcatur, Kans.

AYER'S Sarsaparilla

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

Cures others, will cure you

Small Fruits. 999,999 Strawberry plants, over sixty varieties. Large stock of Kansas, Palmer and Older Raspberry tips. All other kinds of plants at lowest prices. Write for catalogue. F. W. DIXON, (Successor to Dixon & Son,) NETAWAKA, KANSAS.

IF A FARMER

Your name and address should go in the Farmers' Directory. Seedsmen, publishers and merchants will send sample goods in abundance to you. It is the only DIRECTORY of its kind. Ten cents in silver will put your name in it. Try it, and see the results. Address G. E. WALSH, P.O. Box 1189, New York City.

FERTILIZERS ARE UNPROFITABLE,

Unless they contain sufficient Potash. Complete fertilizers should contain at least 6 per cent. of Potash. Fertilizers for Potatoes, Tobacco, Fruits and Vegetables should contain from 10 to 15 per cent. of Potash. Farmers should use fertilizers containing enough Potash or apply Potash salts, such as Muriate of Potash, Sulphate of Potash and Kainit. For information and pamphlets, address

German Kali Works, 93 Nassau St. New York City.

HORSEMEN!

Try Dr. Orr's Veterinary Remedies.

Tonic Cough Powder, for cough, distemper, loss of appetite, etc. Pound, by mail, 60 cents.

Tonic Worm Powder, for expelling worms and toning up the system. Pound, by mail, 60 cents.

Ready Blister, for curb, splint, swellings and all parts where a blister is indicated. By mail, 50 cents.

Magic Healing Powder, for sore necks, collar galls, etc. By mail, 25 cents.

Remit by postal note to S. C. ORR, V. S., Manhattan, Kas.

CONSUMPTION

SURELY CURED.

TO THE EDITOR—Please inform your readers that I have a positive remedy for the above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy free to any of your readers who have consumption if they will send me their express and post office address. Respectfully, T. A. Slocum, M.C., No. 183 Pearl Street, New York.

LOST OR FAILING MANHOOD,

General and Nervous Debility,

Weakness of Body and Mind, Effects of Errors or Excesses in Old or Young. Robust, Noble Manhood fully Restored. How to Enlarge and Strengthen Weak, Undeveloped Organs and Parts of Body. Absolutely Unfailing Home Treatment—Benefits in a day. Men testify from 50 States and Foreign Countries. Write them. Descriptive Book, explanation and proofs mailed (sealed) free.

ERIE MEDICAL CO., BUFFALO, N. Y.

"This company is too widely known and stands too high to stoop to dishonorable methods, like their ignorant and unprincipled imitators. Men who write them do not have their confidence violated."—N. Y. *Earthstone*.

HARMLESS, UNFAILING AND CHEAP

and successfully used by the leading dairies and creameries all over the country for 17 years.

KEEPS MILK AND CREAM FRESH

and sweet five to seven days without ice.

Sample free. Preservalline Mfg. Co., 10 Cedar St., New York.

Preservalline.

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm. Address all communications Topeka, Kas.

Bacteria.

Bulletin No. 12, February, 1894, from the Storrs Agricultural Experiment Station, Conn., treats of the ripening of cream by artificial bacteria cultures. It is written by Prof. H. W. Conn, and is based upon investigations carried on by him for several years in the biological laboratory of Wesleyan university. It contains a much desired and valuable addition to our knowledge on this intricate subject, and it is very comforting to be assured by such high authority that a majority of our common dairy species of bacteria produce good butter although it may not be of the supremest quality.

Of the various species of bacteria studied, No. 41 was obtained from a lot of so-called "preserved milk" sent from Uruguay to the World's Fair. This milk had become quite bitter, but this species of bacteria produced most excellent butter, proving superior in that respect to any species from other sources.

We quote below the summary appended to the bulletin:

"The chief object of the ripening of cream is to produce the butter aroma, and this aroma, though very evanescent, controls the price of the butter.

"This flavor the butter-maker owes to the bacteria, for by their growth the materials in the cream are decomposed and the compounds formed which produce the flavors and odors of high quality butter.

"Different species of bacteria vary much as to the flavor which they produce, some giving rise to good, some to extra fine, and others to a very poor quality of butter. A majority of our common dairy species produced good, but not the highest quality of butter.

"Up to the present time the butter-maker has had no means of controlling the species in his cream, but has had to use those furnished him by the farmer.

"The bacteriologist can isolate and obtain in pure culture the species of bacteria which produce the best flavored butter. He can then furnish them to the creameries to use as starters in cream-ripening. This artificial ripening of cream promises much for the near future, although it has been applied only on a small scale at the present time. The use of a pure culture of a species from Uruguay improved the flavor of the butter of a Connecticut creamery over 20 per cent., according to expert estimates.

"Most species of bacteria in bad butter are probably associated with filthiness. Hence, a proper inspection of the barns and dairies to insure proper conditions, especially cleanliness, will be a means of avoiding much of the trouble in cream-ripening, and will in many cases result in an improvement of the butter."

Dairy Notes.

Don't neglect the cows because dairy products sell at a low price.

Plant a piece of Kaffir corn or sorghum to fall back on when the pasture is getting short.

If you can arrange to divide the pasture into two or more lots, do so and you will gain in feed and milk.

Good cows will pay for good care, even though milk and butter are down in price; they rarely go below the cost of production.

Soiling crops should be near the barn for convenience in feeding, and a night pasture in fly time will more than pay in the comfort of your animals.

If you think the cows don't pay while on grass try feeding them some cottonseed meal. Keep an account with them before and after feeding the meal.

If the cows are bred to calve next fall they ought to give milk enough this spring and summer to pay a profit over cost of feed and labor; and they will if they are the right kind of cows.

A machine that is not allowed to stand idle does not get rusty, and it runs with less oil and friction than one that is laid up for awhile; and a cow

kept at work does not get out of the habit of doing good work. Both machine and cow pay better the less idle they are.

It is no use to say that dairying does not pay, for it does pay those who know how to conduct the business. Dairying is like any other business, it must have certain requisites as capital to work with. Among these are good cows, good feed and a good feeder. These three make a whole team that will pull the profits out in any kind of times.

Remarks made by Mr. D. W. Wilson, at the organization of the National Dairy Union: "I would like to say a few words to this convention now, in hopes that I won't have to say anything more hereafter. I want to say something about the plans and scope of the organization that we are trying to get in shape here. I have been in this fight on the oleo question more or less for a good many years; have known something about it, and think I ought to know what the effects have been and are likely to be. The question now is, and I think every one of you will admit that it is the great question before us to-day, shall butterine become the standard of the country, or shall pure butter still remain the standard food? If the condition of things as they are to-day continues and gets worse, as it will and must, under the present situation, the time will come when we will have no use for the cow, except to raise steers to produce fat, to be used for making butterine. We are here to do something that shall benefit those men who have invested their means, and there are millions of them, in their cows and their farms, and shall we be recreant to our trust and not endeavor at least to do something that shall make their property not only as valuable as it now is, but more so? Shall we allow the cow to come into competition with the hog? By no manner of means. A physician whom I have known for many years tells me there is a disease, I think he calls it gastritis, which has become extremely prevalent within the last ten years, and he attributes it entirely to the use of oleo and butterine. The reason of this, he says, is because the oils used in their manufacture are not thoroughly cooked and cause a severe irritation of the stomach, which finally results in the disease named. If that be true there is something beyond protection to the dairy industry that we can and ought to do. That is to show how injurious the use of these adulterations are to the health of the consumers. We have representatives from all sections of the country, and we need an organization around which the dairymen can rally and devise ways and means for their protection from the great fraud that is so prevalent. We must impress upon all the people of this country, and especially our legislators, the importance and value of the dairy and the votes that are behind it, so that when we ask for proper legislation, either national or State, we shall have a backing that will secure us what we demand. We want to show the country by our actions that we mean business. Let us take hold of this subject in a broad and liberal way, and form an organization that shall be national in its scope and work, as well as in name."

To make the hair grow a natural color, prevent baldness, and keep the scalp healthy, Hall's Hair Renewer was invented, and has proved itself successful.

Texas Wants You. You Want Texas.

If you like May weather in winter, apply to nearest agent of Santa Fe route. He will supply it in thirty-six hours. It is done by buying a ticket to Galveston or Houston. Perhaps less expensive than staying at home, because a big coal bill is saved.

Regular winter tourist tickets can be bought any day, but special excursions will be run the second Tuesday of each month from a limited territory to all points in Texas.

The excursion fare? Cheap enough—a little over a cent a mile; tickets good thirty days, with stop-overs south-bound.

The Gulf coast of Texas is a charming resort for invalids who don't like zero weather. Big attractions also for home-seekers; twenty acres of land there planted in pears nets the owner \$6,000 each year after orchard is established. Strawberries and grapes also profitably raised.

Talk it over with agent Santa Fe route, or address G. T. Nicholson, G. P. A., A. T. & S. F. R. R., Topeka, Kas., and ask for a free copy of "Texas Gulf Coast Country."

THERE is but one way in the world to be sure of having the best paint, and that is to use only a well-established brand of strictly pure white lead, pure linseed oil, and pure colors.*

The following brands are standard "Old Dutch" process, and are always absolutely

Strictly Pure White Lead

"Southern," "Red Seal," "Collier."

*If you want colored paint, tint any of the above strictly pure leads with National Lead Co.'s Pure White Lead Tinting Colors.

These colors are sold in one-pound cans, each can being sufficient to tint 25 pounds of Strictly Pure White Lead the desired shade; they are in no sense ready-mixed paints, but a combination of perfectly pure colors in the handiest form to tint Strictly Pure White Lead.

Send us a postal card and get our book on paints and color-card, free.

St. Louis Branch, Clark Avenue and Tenth Street, St. Louis.

NATIONAL LEAD CO.

The Poultry Yard.

The Cost for a Start.

"How much should it cost to secure a start so as to make a living in the poultry business?" This is a frequent inquiry, but we are reminded of it by the following letter from a subscriber at Charlotte, Mich., who writes:

"Can you give a fair estimate of how much it would cost to get a start with 125 or 150 hens, with all buildings, brooders, incubators, etc., complete, and what should be my net income the first year, taking into consideration the fact that I am new in the business?"

We suppose that our subscriber means he will raise chicks, the 150 hens intended for laying the eggs. No estimate can be based on the hens. The size of the building, number of incubators and the number of broilers to be raised should be considered.

Broilers are raised in winter with incubators, hence the hens must lay in winter. If each hen lays three eggs a week it will be far above the average. We may say that if the 150 hens lay 200 eggs a week all through the winter it will be doing well, as some may not lay at all, and others may be sick. Some will be too fat, some affected by the cold and some will not lay before spring. Then, again, the eggs may not be fertile. Hence 200 eggs a week, for hatching, from 150 hens, is a liberal estimate.

It will require three 200-egg incubators to hold the eggs, so as to start an incubator every week. Four incubators would be better, as it takes time to clean up after each hatch. They will cost about \$125. The house should accommodate 1,500 chicks, and will cost from \$600 to \$800, according to labor and material. The brooders will cost \$100, and the hatching arrangements probably \$200. Of course our estimates are not reliable, as so much depends on conditions.

The food of the hens will cost about \$100, the fuel about \$50, and each chick will cost 5 cents in food for every pound it weighs.

Our subscriber says he is new at the business. Then he will certainly lose money the first year. No matter how much he reads (even if he reads the *Poultry Keeper*), the experience will show him many points and details that he never thought of before. Our advice is to begin with a 100-egg incubator and one brooder. Work at it the first year, learn to raise the chicks, and do not put all your capital in a business you do not understand. We will never advise any of our readers to

risk their hard earnings in an uncertainty. Experience is better than capital.—*Poultry Keeper*.

Raising Poultry on a Large Scale.

Keeping a thousand or more fowls upon one place is not the child's play that some persons seem to fancy it to be. In a single body or collection, no such numbers can be kept together to profit. Plans have been proposed, and there are writers on poultry who tell us how this can be accomplished to advantage. But this thing, like many another problem in successful fowl-raising, is not yet appreciated.

We do not in this assertion assume that 1,000 or 10,000 domestic fowls cannot be managed upon one estate (provided the farm be large enough), and under one competent general superintendent. But what we intend to convey is this: To keep large numbers of fowls upon one place, the flocks must be colonized, in not over fifty to one hundred in a spot. For each colony separate houses must be provided, and ordinarily these runs must be fenced, and to keep them in good thrift throughout the year each lot must have ample space for range.

This requires a great deal of land, and it also requires so much attendance to feed and look after this excess of numbers that the cost of their care, feeding, doctoring, housing, etc., will eat up the income that can be realized from them, unless there is first-rate skill and ability employed.

We receive many letters in the course of a year, asking for information respecting raising poultry on a large scale for the food market. If the writers of these letters knew how impossible it would be for us to do justice to a topic of such magnitude, within the compass of an ordinary letter, or in half a dozen such letters, they would spare their questions.

We have a book entitled "An Egg Farm," which we wrote on purpose to assist such inquirers. It is devoted entirely to the topic of keeping poultry in great numbers for market as a regular business. It will be sent postpaid from this office for 50 cents, and we want to have all read it who are interested in the subject.—*Poultry World*.

A Grand Success.

LLOYD, TEXAS, March 20, 1894.

The Lawrence-Williams Co., Cleveland, O.:

Please accept my thanks for the bottle of Gombault's Caustic Balsam. It has been a grand success in every disease treated. I would not do without it. D. G. TURNER.

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The Family Doctor.

Conducted by HENRY W. ROBY, M.D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

Surgical Emergencies. (NUMBER 21.)

Of all the horrible calamities that afflict mankind, especially in civilized countries, probably the most frequent, appalling and disastrous one, is that from fire, directly or indirectly. The indirect instances are those of burning by steam, hot water, molten metals, and suffocation by smoke and gases generated in conflagrations. For slight burns, that merely redden the skin and make it smart and tingle moderately, a dressing of raw linseed oil and calendula, prepared without alcohol, applied on cloths that are wrapped smoothly over the part and kept wet with the lotion until all pain ceases, is a very excellent dressing. Another good dressing is sweet oil, six parts, and carbolic acid, one part, applied in the same way. And these are probably the two best dressings known for a majority of burns.

Many ignorant and some foolish people straightway daub every burn they come to with whatever comes handy. Whatever they can daub on, they make a dash at, no matter whether it assists or hinders nature in the cure. Many a case of severe burn has been rendered incurable by the absolutely poisonous stuff put on it under the mistaken notion that anything on earth that can be conjured up or thought of is better than nothing, when, in fact, if nothing were done at all, many times the patient would fare infinitely better. The first and most important of all things to be done or omitted is to see to it that no irritating or poisonous substance be applied to a burned surface. And the next most important thing is to apply a clean, pure dressing, that shall effectually exclude the air from the burn. Atmospheric contact is largely responsible for the terrible suffering of burned people. If nothing better is at hand a cloth dipped in clean, warm water is to be applied at once and kept wet, and a very serviceable addition to that is bi-carbonate of soda (or baking soda) brine strained through a close cloth to remove all the granular particles. That allays the pain sometimes very promptly. But, remember, it is to be soda water, not soda mush, as so many people fancy. A mass of crude or raw soda stuck on to a burn is often very difficult to remove and often breaks the skin in its removal.

Unless you want to set up a still more violent disturbance in the system and increase the congestion and inflammation, never apply a cold dressing. A warm one will do great good, while a cold one will do great harm. While a cold compress may serve to give momentary relief from pain, by benumbing the nerves, yet its secondary effect is very pernicious. It will often double the amount of swelling and subsequent inflammation by rendering the circulation through the parts much more sluggish. It throws many a case into a slough of the tissues that might escape that danger if given a warm dressing. Burns on the body are far more serious than those of equal extent and degree on the extremities. And when more than a third of the whole surface of the body is seriously burned, the case is usually fatal. A severe burn about the chest or other part of the trunk is quite likely to set up pleurisy or pneumonia or both.

After a burn is properly dressed, unless violent inflammation and sloughing sets in, it should, as a rule, not be disturbed until it heals up. The inner dressing should be applied smoothly and not very thick, and over that should be placed an outer, supplemental dressing that can easily be removed, and it should be taken off as frequently as the inner dressing becomes dry and a fresh application of the soda brine or oil and calendula or oil and carbolic acid applied and the outer dressing replaced. In that way the air is not permitted to reach the raw surface and thus much burning and smarting and often suppuration is avoided. A burned spot often opened and exposed to the air is liable to be followed by far more disfigurement than if the air were persistently excluded.

A couple of drops of tincture of cantharides, in a third of a glass of water, and taken every hour or two in teaspoonful doses, often helps very much to allay the pain and smarting of a burn. When the burn is large and deep, and the pain very intense, a quarter of a grain of morphine confers much comfort on the patient by quelling the pain, and if need be it may be repeated every two hours until the pain is fairly under control.

About thirteen years ago, Mrs. Ramsbarger, of Topeka, endeavored to extinguish a lamp, blew down the chimney, and when the neighbors organized a neighborhood fire brigade and extinguished the flames, they found the good lady still alive, but terribly burned. I was called hastily and found the

left hand and arm in which she held the lamp burned deeply from finger tips to shoulder; the right hand and a part of the arm badly but less severely burned. The left breast and chest were also badly burned, and the abdomen and one thigh severely cooked, literally roasted. I at once applied a dressing of linseed oil and calendula, (French marigold), and covered it with sheet cotton. Two to four times a day I removed the cotton and poured on the dressing freely. A dose of morphine was given at the start to allay the terrible agony, and all went well. But the burn was so deep in places that serious sloughing occurred. The joint at the root of the left thumb sloughed open. The flesh nearly all came off that hand. Two layers of muscle, as large as a man's hand, with a much larger patch of skin, came off the abdomen. A severe threatening of miscarriage came on the next day which was subdued after a hard fight. After six weeks of severe suffering the burned regions healed, leaving a sort of skeleton hand on the left side with a pretty good one on the right. A great savage scar marked the abdomen, and two months after the accident I attended her at the birth of a perfectly healthy baby.

About a year later, a Mrs. —, in another part of the city, started her kitchen fire and her own holocaust with a can of kerosene. When I arrived she was wrapped in a wet quilt and in a convulsion of agony. Examination revealed the fact that except on the soles of the feet and the crown of the head, where the hair was coiled, there was not an unburned spot the size of a hand. Warm soda water compresses and morphine were used to allay the agony, and soon subdued the outcry. But the surface involved was too great for recovery and in a day she died.

Kansas Beef Clubs.

EDITOR KANSAS FARMER:—Now is the time for the farmers to organize their beef clubs for the summer. We organized Pioneer club No. 1 two years ago. Last year we organized club No. 2, and used the same butcher shop. Ours was the first to organize in Republic county. Now there are six clubs in operation. Last season our two clubs killed forty beeves, averaging about 450 pounds dressed, and distributed it among seventy-five families, at a cost of from four to four and one-half cents dressed, making about 18,000 pounds, distributed twice a week for twenty weeks. Commencing June 1, we had two butchers belonging to the club. They dressed the beeves and cut them up ready to be distributed for the hide and tallow. On the last day of distribution the members all met and averaged up. Those falling short made up to those that over-run the average at the prices agreed on—four and four and one-half cents. Our meat cost us less than half what we would have to pay the butcher. This is one way the farmers can co-operate and save money. Taking the Golden rule as their guide, will give satisfaction to any community.

JOHN W. WILSON.

Talmo, Kas., May 2, 1894.

Gossip About Stock.

J. A. Worley, of Sabetha, Kas., claims October 4, as date for public sale of Poland-China swine, and E. Zimmerman, of Hiawatha, makes his public sale the next day, October 5. Both herds are in fine shape now. Mr. Worley reports seventy-five pigs up to date and six more sows to farrow.

The annual meeting of the American Southdown Breeders' Association will be held in the Illinois National bank, Springfield, Illinois, May 30, 1894, at 2 o'clock p.m. Those who cannot attend are requested to present by letter to the Secretary, J. G. Springer, any suggestions they may have to make for the good of the association and the interest it represents.

W. E. Gresham, breeder of Poland-Chinas, Burrton, Kas., writes: "Quality herd, the home of the World's Fair winners, is in fine condition, with forty prospective winners on hand and a number of sows yet to hear from. Since my return from World's Fair, calls for first-class pigs have been strong. All stock old enough for winter or spring use sold out. This end of Kansas is quite short on hogs generally. Darkness F. 73222 O. 22450 S., the \$500 dam of litter winning three ribbons World's fair, has a

Hungry Leather.

The natural food of leather is oil. Hard and stiff leather is soft in a minute with

Vacuum Leather Oil.

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For pamphlet, free, "HOW TO TAKE CARE OF LEATHER," send to VACUUM OIL CO., Rochester, N. Y.

CUT OUT THIS COUPON

Those of our readers who improved the opportunity of attending the

WORLD'S FAIR will always remember it as one of the grandest privileges of their lives.

The Peristyle.
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Or who can ever forget the proud distinction achieved by McCormick Binders and Mowers? Who can ever forget that the McCormick received the highest awards given for any make of Binders and Mowers, and that in the regular field trials they earned the only honorable mention for grain and grass cutting machinery?

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MCCORMICK HARVESTING MACHINE CO., CHICAGO; or, better yet, call on your nearest McCormick Agent.

SAVE THIS COUPON.

It contains some things you ought to know. You ought to know that the World's Fair Management asked all manufacturers of Binders and Mowers to take their machines into the grain and grass fields, and by their work prove their claims. You ought to know that the manufacturers of McCormick Binders and Mowers promptly notified the World's Fair Committee that they would comply with this reasonable request. You ought to know that various other manufacturers of Binders and Mowers sent representatives to examine the grain and grass fields specified, and that these representatives reported to their respective companies that the condition of the crops to be cut was such that ordinary machines could not handle them. You ought to know that none of those manufacturers allowed their machines to go into these tests where they knew the McCormick Binders and Mowers would be at work. You ought to know that the World's Fair Judges said of McCormick Binders that they were simple and easily operated, and that their performance was in all respects thoroughly satisfactory. You ought to know that they said of McCormick Mowers that their draft is at least 20 lbs. lighter than the draft of ordinary mowers. You ought to know these things because you don't want to make a mistake when it comes to buying so important a farm implement as a Binder or a Mower. You want the best.

THE STRAY LIST.

FOR WEEK ENDING APRIL 25, 1894.

Sumner county—Chas. Sadler, clerk.

HORSE—Taken up by J. W. Morgan, in Guelph tp., P. O. South Haven, March 27, 1894, one iron grey horse, fifteen hands high, harness marks, scar on left knee; valued at \$35.

MARE—By same, one dun mare, fifteen hands high, harness marks; valued at \$35.

Chautauqua county—C. W. Arnold, clerk.

MARE—Taken up by H. Craft, in Belleville tp., P. O. Jonesburg, April 16, 1894, one sorrel mare, 8 years old, fifteen and one-half hands high, white hind feet, had on halter, no brands, mule colt about three days old following; valued at \$20.

Harper county—Wm. Duffy, clerk.

MARE—Taken up by E. S. Semple, in Eagle tp., March 31, 1894, one roan mare, 10 years old, branded H on left hip.

HORSE—By same, one brown horse, 6 years old, no marks or brands; valued at \$20 each.

Montgomery county—John W. Glass, clerk.

MARE—Taken up by J. W. Scoville, in Fawn Creek tp., one brown mare, 4 years old, fourteen and one-half hands high, white stripe down forehead; valued at \$20.

MARE—Taken up by B. Brown, P. O. Tyro, April 8, 1894, one dark brown mare, about 4 years old, fourteen and one-half hands high.

FOR WEEK ENDING MAY 2, 1894.

Sumner county—Chas. Sadler, clerk.

COW AND CALF—Taken up by John W. Sudarth, in Wellington tp., P. O. Wellington, April 19, 1894, one dark brown cow, weight about 600 pounds, with young calf; valued at \$15.

Pawnee county—James F. Whitney, clerk.

HORSE—Taken up by William Arnold, in Grant tp., P. O. Rosel, April 6, 1894, one iron-gray horse, 14½ hands high, scar on back; valued at \$25.

MARE—By same, one iron-gray mare, 14 hands high, harness marks; valued at \$25.

Cherokee county—P. M. Humphrey, clerk.

HORSE—Taken up by Edward Humphries, in Mineral tp., April 21, 1894, one bay horse, about 9 years old, four feet eight inches high, branded J. E. on left hip, marked in right ear; valued at \$8.

FOR WEEK ENDING MAY 9, 1894.

Ford county—J. H. Leidigh, clerk.

2 STEERS—Taken up by Dora Shusty, in Wheatland tp., P. O. Spearville, March 30, 1894, one red steer, belly and tip of tail white, branded I. C. on left side, 5 years old; also one spotted steer, branded U on left side, left ear cropped, 4 years old; valued at \$50.

Shawnee county—Chas. T. McCabe, clerk.

PONY—Taken up by G. W. Selover, in Topeka tp., December 22, 1893, one bay pony, 9 years old, no marks or brands; valued at \$6.50.

Cherokee county—P. M. Humphrey, clerk.

MARE—Taken up by A. A. Kenworthy, in Shawnee tp., P. O. Crestline, one iron-gray mare, 5 years old, white in face, fifteen hands high; valued at \$35.

MULE—By same, one small mouse-colored mule, 2 years old; valued at \$15.

Harper county—Wm. Duffy, clerk.

MARE—Taken up by James C. Crossman, in Stohrville tp., April 9, 1894, one roan mare, 4 years old, salt in left ear, both hind feet white; valued at \$15.

MULE—Taken up by G. A. Clift, in Stohrville tp., P. O. Bluff City, April 11, 1894, one male mule, 10 years old, dun, black stripe down each shoulder; valued at \$30.

Phillips county—I. D. Thornton, clerk.

COLT—Taken up by C. W. Hill, in Freedom tp., P. O. Phillipsburg, April 10, 1894, one three-year-old medium size roan colt, no marks or brands visible; valued at \$22.

Crawford county—Peter McDonnell, clerk.

FILLY—Taken up by Wm. H. Braden, P. O. Pittsburg, April 23, 1894, one dark brown filly, a little white on each foot; valued at \$12.

Leasing Oklahoma School Lands.

All persons wanting to lease school land in Oklahoma will be rewarded by sending for a free sample copy of the HOME, FIELD AND FORUM, Guthrie, Okla., the leading agricultural paper of Oklahoma Territory.

splendid litter now, in which are five top male pigs. She only farrowed eleven this time and doing well. Bessie Gresham 9629 S., dam of the great \$200 Seldom Seen 10084 S., winner of third (sweepstakes S. R. and first Kansas money) at World's Fair, is yet to hear from. Bessie S. 22451 S. has a splendid litter by a grandson of the great Guy Wilkes, U. S. White Face Vol. 9 S., sire of \$500 Black U. S. 13471 O. Mints White Face 59118 A., has a litter of seven very promising fellows, sired by the \$600 pig Ideal Black U. S. 29505 A., he by Black U. S. 13471, dam Ideal Lady 28946 O. Moss Rose 22452 S. R., Black Rose 17727, Lawrence Bess, Lawrence Bess 20, and Black Maude are yet to hear from. Also have some top pigs by Free Trader 29249 O., he by Free Trade, besides others. Darkness Quality, the fine \$200 youngster, is doing fine service and promises to take the place at the head of Quality herd with great credit. Quality farm in the future, as in the past, will send out some of the world's best, both as individuals and in breeding, as the winnings at World's fair in the strongest competition ever gathered on American or any other soil, amply proves that they can be grown in Quality herd. Boars to head herds a specialty, as well as top show pigs, both male and female, will be a matter of special correspondence, which is invited and will be cheerfully answered."

Our Duroc-Jersey Illustration.

We present our readers on page 1, this week, a life-like and truthful picture of the famous Duroc-Jersey hog, Exchanger, one of the finest animals of the breed, and at present at the head of the famous herd of J. M. Stonebraker, Panola, Ill. In ordinary flesh he weighs 900 pounds, is very active and stands up on his toes like a pig. He is without apparent fault or blemish, and took first premium in class in 1892, at the St. Louis fair, and first in class and sweepstakes over all breeds at the South Dakota fair, being the only Duroc-Jersey hog that was ever known to accomplish this latter feat. He has taken first in class ever since he was a pig and never was beaten, except in 1892, at Des Moines, Iowa, where he received the red ribbon for the first time in three years. He was bred by Mr. N. Harrington, of Grinnell, Iowa. Mr. William Roberts, one of Iowa's most noted breeders of Duroc-Jerseys, from whom Exchanger was purchased by Mr. Stonebraker at a long price, says of him: "He is without doubt the best Duroc-Jersey I ever saw, and he is the sire of more premium pigs than any other boar of his age and breed." For prices and description of this thoroughbred herd, with the history of the breed and much additional information of decided value, forty-four pages in all, enclose stamp and address Mr. Stonebraker, at Panola, Ill. He is one of the pioneer breeders of Duroc-Jerseys, and no man, east or west, has done more to develop this now popular breed of swine. He was for two years President of the N. D. J. Record Association, and in that capacity has done a great amount of work for the benefit of the Duroc-Jersey breeders of the country for the past two years.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the KANSAS FARMER. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. Sometimes parties write us requesting a reply by mail, and then it ceases to be a public benefit. Such requests must be accompanied by a fee of one dollar. In order to receive a prompt reply, all letters for this department should be addressed direct to our Veterinary Editor, Dr. S. C. ORR, Manhattan, Kas.

WIRE CUT.—Please inform me as to the best treatment for a bad wire cut on a colt. R.

Louisville, Kas.
Answer.—Make a wash as follows: Sugar of lead, 1 ounce; sulphate of zinc, 6 drachms; carbolic acid, 2 drachms; rain water, 1 quart; mix. Apply this to the sore two or three times a day with a sponge or syringe, and, if the sore is in a healing condition, it will heal rapidly.

SWELLING ON HIND LEG.—We have a six-year-old mare that has a swelling on the outside of the hind leg between the fetlock and pastern joint. Please give cause and remedy. J. H.

Lasita, Kas.

Answer.—As you do not describe the swelling; do not say of how long standing; do not say whether it is hard or soft, or whether it causes lameness, I have nothing upon which to base a diagnosis. If the mare is not lame the best way is to let it alone. If she is lame, blister the part with cantharidine ointment.

PARTIAL PARALYSIS.—I have a filly, 3 years old, that is partially paralyzed in her hind legs. Is there a remedy for it? Will she do to breed? Ruby, Kas.

Answer.—Paralysis is sometimes very difficult to cure. Give her 1 drachm of powdered nux vomica and 2 drachms of nitrate of potash in feed night and morning for a few weeks. Also make a liniment of equal parts raw linseed oil, turpentine and ammonia and rub in along the spine. It will always pay best to breed from sound animals.

LACTORRHEA.—I bought a cow three weeks ago, 9 years old and very thin in flesh. She dropped a calf next day after I bought her, and when her udder becomes partly filled with milk it begins to run from the two front teats and continues until she is milked. Please advise me through the KANSAS FARMER how to prevent it. T. L.

Dodge City, Kas.
Answer.—There is a relaxed condition of the sphincter muscle which closes the milk ducts. The only remedy is to place a rubber band around the teat tight enough to prevent the flow of milk and not stop the circulation.

PUNCTURED WOUND—WIRE CUT.—(1) We have a horse that got a stick run into the side of his shoulder. It is so badly swollen that he can hardly walk. The hole runs upward and is about four inches long. We found several pieces of wood in it. Would it be safe to cut it open to see if there is any more wood in it? (2) I have a pony that got cut in the wire. What can I do to heal it? E. A. U.

St. George, Kas.
Answer.—(1) By the time this reaches you the swelling will have gone down or the horse will be beyond the reach of medical aid; such cases require immediate attention. The first step in such a case is to remove all pieces of wood or other foreign bodies; then the wound may be dressed with a mixture of one part turpentine and two parts olive oil and the horse should be turned loose where he can walk about. This will prevent swelling and soon start a flow of pus. After two or three days the wound

should be dressed twice a day with the following: Sugar of lead, 1 ounce; sulphate of zinc, 6 drachms; carbolic acid, 2 drachms; water, 1 quart; mix. Do not use more water on the sore than necessary to keep it clean; use no soap. It is not safe for you to cut the shoulder open unless you are acquainted with the location of the blood vessels and nerves. (2) Use the same healing wash on the wire cut.

MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City.

CATTLE—Receipts, 2,832 cattle; 18 calves. Top prices for dressed beef steers \$4 10, which is 10 cents higher than a week ago. Prices realized ranged from \$3 40 to \$4 10. Red Texas heifers brought \$3 75 to \$3 85; Texas cows, \$2 25 to \$3 50; Western steers, \$3 50 to \$3 85; cows, \$1 50 to \$3 45; bulls, \$2 60 to \$3 15; heifers, \$2 55 to \$3 75; calves, \$3 75 to \$3 12 1/2; stockers and feeders \$2 30 to \$3 35.

HOGS—Receipts, 3,144. Top price was \$5 10 against \$5 05 a week ago. Pigs and lights sold at \$3 75 to \$5 05; heavy hogs \$3 50 to \$5 10, with most of the sales above \$5 00.

SHEEP—Receipts, 1,620. Four with wool on brought \$4 00; clipped brought \$2 75 to \$3 75.

Chicago.

CATTLE—Receipts, 16,000. Market steady. Beef steers, \$3 00 to \$3 85; stockers and feeders, \$2 35 to \$3 85; bulls, \$1 85 to \$3 25; cows, \$1 50 to \$3 25.

HOGS—Receipts, 25,000. Mixed, \$5 00 to \$5 30; heavy, \$4 00 to \$5 30; light weights, \$5 00 to \$5 32 1/2.

SHEEP—Receipts, 15,000. Natives, \$2 00 to \$4 70; lambs, per cwt., \$3 35 to \$4 90.

St. Louis.

CATTLE—Receipts, 2,100. Natives steady. Texans steady. Native steers, common to best, \$3 00 to \$4 00.

HOGS—Receipts, 2,400. Market steady. Top, \$5 20; bulk, \$4 90 to \$5 10.

SHEEP—Receipts, 2,600. Market steady. Natives, clipped, \$2 20 to \$3 90.

GRAIN AND PRODUCE MARKETS.

Kansas City.

In store: Wheat, 339,389 bushels; corn, 14,050 bushels; oats, 20,145 bushels, and rye, 10,238 bushels.

WHEAT—Receipts for forty-eight hours, 22,800 bushels; last year, 63,000 bushels. A steady market and fair demand continues to be had for all good milling wheats. Not enough good wheat coming in to supply the milling demand. Low grades dull and weak. By sample on track on the basis of the Mississippi river, local 6c per bushel less: No. 2 hard, 2 cars 59 pounds at 57 1/2c; 2 cars 61 pounds at 57 1/2c, 1 car poor billing at 55 1/2c; No. 3 hard, 1 car at 55 1/2c, 3 cars 56 to 57 pounds at 56c, 1 car choice 58 pounds at 56 1/2c; No. 4 hard, 52 to 54c; rejected, 48 to 51c; No. 2 red, 1 car 61 pounds at 60 1/2c, 1 car local at 54c; No. 3 red, 1 car 57 pounds at 58c, 1 car 56 pounds at 57c, 1 car choice 58 1/2 pounds at 58 1/2c; No. 4 red, 53 to 55c.

CORN—Receipts for forty-eight hours, 43,800 bushels; last year, 35,400 bushels. A heavy decrease in the visible supply and light receipts causing a decidedly bullish feeling and enabled holders to advance prices all around. By sample on track: No. 2 mixed, 5 cars at 35 1/2c, 10 cars at 35 1/2c, 10 cars at 36c; No. 2 yellow, 2 cars at 35 1/2c; No. 3 mixed, 1 car at 35 1/2c; No. 2 white, 2 cars at 36 1/2c, 2 cars at 37c, 10,000 bushels to arrive at 37 1/2c, and 5,000 bushels to arrive at 38c; No. 3 white, 36 to 38 1/2c.

OATS—Receipts for forty-eight hours, 10,000 bushels; last year, 25,000 bushels. A good demand continues to be had for all offerings, and values steady and firm. By sample on track: No. 2 mixed, 35 to 35 1/2c, as to quality and billing; No. 3 mixed, 34 1/2 to 35c; No. 4 mixed, 33 1/2 to 34c; No. 2 white, 35 1/2 to 36c; No. 3 white, 35 to 35 1/2c; No. 4 white, 34 to 34 1/2c. Sales: No. 2 mixed, 2 cars at 35 1/2c; No. 2 white, 1 car at 36c and 1 car at 35 1/2c.

RYE—Receipts for forty-eight hours, 600 bushels; last year, 600 bushels. But little doing for the want of supply, but prices steady and firm. By sample on track, on the basis of the Mississippi river: No. 2, 51 to 52c; No. 3, 48 to 50c.

MILLET—Demand fair at old prices. Per 100 pounds, German 60 to 75c, common, 55 to 70c.

BRAN—Steady but slow sale. Bulk at 58c and sacked at 63c per cwt.

FLAXSEED—Again higher, at \$1 20 per bushel upon the basis of pure.

HAY—Receipts for forty-eight hours, 130 tons. Demand very good. Fancy prairie, \$7 00; choice, \$5 50 to \$6 00; low grades, \$3 50 to \$5 00; timothy, choice, \$9 00; No. 1, \$8 00; No. 2, \$7 00 to \$7 50; choice clover, mixed, \$5 00 to \$5 50.

BUTTER—Best table goods sell in a fair way at unchanged prices, but low grades hard to move at any price. We quote: Creamery, highest grade separator, 16c per pound; finest gathered cream, 15c; fine fresh, good flavor, 15c; fair to good, 13c. Dairies—Fancy farm, 11 to 12c; fair to good lines, 8c. Country store-packed—Fancy 11c; fresh and sweet packing, 8c. Roll—Fancy, 11c; choice, 10c; fair to good, 8c.

EGGS—Receipts light and market steady. Fresh, 7 1/2c.

CHEESE—Missouri and Kansas, full cream, 10c.

POULTRY—Receipts of hens light and market weak under a slow demand. Springs far from active. We quote: Hens, per pound, 5c; roosters, old and young, 15c each; broilers, per pound, 15 to 18c; turkeys, hens, per pound, 7c; gobblers, 6c; ducks, full-feathered, 6c per pound; geese, full-feathered, per pound, 6c; pigeons, per dozen, \$1 25; veal, choice 80 to 100 pounds, per pound, 4 1/2 to 5c.

POTATOES—The arrivals do not amount to much, but movement of old stock is not brisk, with values firm. New stock moving slowly. Colorado red, per bushel, 85 to 95c; Colorado white, 85 to 90c; Northern, choice, 75 to 85c; Northern, fair, 75c; Idaho, 75 to 85c; native, choice, 75 to 80c; native, good, 60 to 70c; native, common, 50c. Potatoes, sweet, \$1.

STRAWBERRIES—The receipts yesterday were very heavy, and as there was no market yesterday this supply was thrown on the market to-day. Arrivals were good, but with two days supply here it is no wonder prices went lower. Receivers got afraid, not knowing what would come in, and in their efforts to get to-day's receipts out of the way for to-morrow's run values were cut. When that was once done there was no remedy for it but to try to maintain the price established early in the day. Good bright stock sold at \$2 00 to \$2 25. Fair stock sold at \$1 75, and many sales were made at that figure. After dinner 25c was taken off of the selling price, and at the close of the day there were many crates still unsold which were offered at any price, even as low as \$1.



REFERENCES:
Metropolitan National Bank,
Chicago, and this Paper.

DOES WOOL GROWING PAY?

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FRUITS—Jobbing prices: Apples, fancy stand, per barrel, \$5 00 to \$6 00; choice, \$4 00 to \$5 00.

VEGETABLES—Jobbing prices: Beans, navy, California, per bushel, \$2 00 to \$2 15; country, \$2 00 to \$2 10; beets, per bushel, 50 to 60c; cabbage, per 100 pounds, \$2 25; celery, California, 75c to 1 00 per bunch; onions, Northern, per bushel, 80c.

EARLY VEGETABLES—Asparagus, 10 to 12c per dozen; cabbage, California, per pound, 1 1/2c; cucumbers, per dozen, \$1 50 to \$2; beans, per bushel, \$1 75 to \$2; beets, per dozen bunches, 50 to 75c; egg plant, per dozen, \$1 00 to \$1 15; kale, per bushel, 6c; new potatoes, per box, \$1 75 to \$2; pieplant, per dozen, 20 to 30c; peas, per bushel box, \$2 25 to \$2 50; radishes, per dozen bunches, 10 to 15c; spinach, per barrel, \$2 50 to \$3; tomatoes, Florida, 8 basket crate, \$3 25.

BROOMCORN—Hurdled, green, 3 to 3 1/2c per pound; green, self-working, 2 1/2 to 3c; red-tipped, do., 2 1/2 to 3c; common, do., 1 1/2 to 2c; crooked, half price. Dwarf, 2 to 3c.

WOOL—Market was quiet but unchanged. Missouri and similar—Fine, 10 to 12c; fine medium, 11 to 13c; medium, 14 to 16c; combing, 14 to 16c; coarse, 12 to 14c. Kansas, Nebraska and Indian Territory—Fine, 8 to 10c; fine medium, 9 to 12c; medium, 10 to 13c; combing, 12 to 14c; coarse, 9 to 10c. Colorado—Fine, 7 to 10c; fine medium, 8 to 11c; medium, 10 to 12c; coarse and carpet, 9 to 10c; extremely heavy and sandy, 7 to 7c.

Chicago.

The following table shows the range of prices for active "futures" in the Chicago speculative market for the speculative grades of the commodities. This speculative market is an index of all prices and market tendencies:

	High- est.	Low- est.	Closed Apr. 30.	Closed May 7.
WHEAT —May.....	58 1/4	57 1/2	58 1/2	57 1/2
July.....	59 1/4	58 1/2	60 1/4	58 1/2
Sept.....	61	59 1/2	62 1/2	59 1/2
CORN —May.....	37 1/4	37 1/4	37 1/2	37 1/2
July.....	39 1/4	38 1/2	38 1/2	38
Sept.....	40 1/4	40 1/4	40 1/2	40 1/2
OATS —May.....	25 1/4	24 1/2	24 1/2	24 1/2
July.....	30 1/4	30	29 1/2	30
Sept.....	25 1/4	25 1/2	25 1/2	25 1/2
PORK —May.....	12 35	12 35	12 40	12 35
July.....	12 47 1/2	12 40	12 60	12 45
LARD —May.....	7 50	7 45	7 57 1/2	7 50
July.....	7 15	7 12 1/2	7 20	7 12 1/2
S. RIBS —May.....	6 50	6 45	6 50	6 47 1/2
July.....	6 40	6 37 1/2	6 50	6 37 1/2

WHEAT—Cash—No. 2 red, 57 1/2c; No. 3 red, 52 1/2 to 54c; No. 2 hard, 55 1/2c; No. 3 hard, 52 to 54c.

CORN—Cash—No. 2, 37 1/2c; No. 3, 37 1/2 to 37 3/4c; No. 2 white, 39 1/2c; No. 3 white, 38c.

OATS—Cash—No. 2, 34 1/2c; No. 2 white, 36 1/2 to 37c; No. 3 white, 36 1/2c.

St. Louis.

WHEAT—Receipts, 5,000 bushels; shipments, 1,000 bushels. The market on generally bearish news from all quarters closed 1 1/2c below Saturday's asking prices. No. 2 red, cash, 53 1/2c; May, 53 1/2c; July, 54 1/2 to 54 3/4c; August, 55 1/2c.

CORN—Receipts, 132,000 bushels; shipments, 70,000 bushels. Weak on weather news, but was

also dead dull. No. 2 mixed, cash, 37 1/2c; May, 37 1/2c; July, 38 1/2c; September, 37 1/2c.

OATS—Receipts, 20,000 bushels; shipments, 13,000 bushels. No. 2 mixed, cash, 35 1/2c; May, 35 1/2c; July, 28 1/2c.

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	Cattle and calves.	Hogs.	Sheep.	Horses and mules.	Cars.
Official Receipts, 1893.....	1,746,828	1,948,373	569,517	35,097	99,755
Slaughtered in Kansas City.....	986,792	1,427,763	372,385		
Sold to feeders.....	249,017	10,125	71,284		
Sold to shippers.....	360,237	510,469	15,200		
Total sold in Kansas City.....	1,566,046	1,948,357	458,869	22,522	

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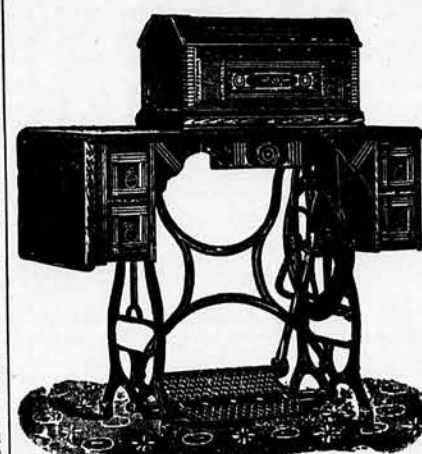


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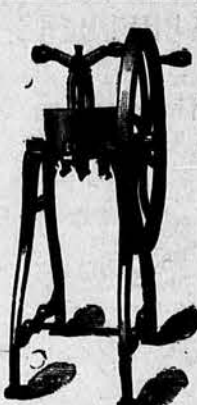
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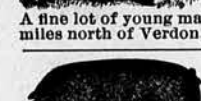
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