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H. H. TAYLOR, Secretary. C. M. SHELDON, President.

BURLINGAME, OSAGE CO., KAS.

Agricultural Matters.

EXPORT BOUNTY ON FARM PRODUCTS.

Several months ago a proposition was launched to fix a government export bounty on farm products. The matter was alluded to in the Kansas Farmer at the time, and it was not expected to attract very much attention. Later, however, the proposition has found vigorous advocates. Among these is the editor of a New York publication called Seaboard. The editor of that journal opened a correspondence with Secretary Morton, and pushed the argument so vigorously as to merit consideration. The editor of the Kansas Farmer, desiring to have the subject ably handled from the farmer's point of view, forwarded the Seaboard-Morton correspondence to Mr. C. Wood Davis, of Peotone, Kas., with a request for his views on the subject. Following is Mr. Davis' discussion, which should be carefully read by every farmer in the land, especially by those who sometimes feel discouraged:

Editor Kansas Farmer:—As a protectionist, the writer favors all legitimate methods of protecting American labor and capital against foreign competition, whether employed in manufactures, transportation upon sea or land, or in agriculture, hence has favored and still favors the payment of such bounties or the imposition of such duties, as will insure the production by American growers of all the sugar consumed in the United States and the carriage in American ships of the foreign commerce of the country, believing that the adoption of such a policy will aid materially in increasing employment for Americans, and in maintaining, if not in increasing, the prosperity of the great mass of the American people, yet does not believe the "Lubin" proposition to pay bounties upon exports of American grain, meats and cotton either practicable or desirable. Not practicable because every great interest except that of agriculture will be arrayed almost solidly against it, and the legislation precedent to the payment of the proposed bounties could not be secured while such bounties would be desirable or in the nature of protection to a now depressed and underpaid industry, and would be inoperative, so far as the growers of food are concerned, as in all probability we shall cease to produce an exportable surplus of grain and meats before any party likely to be in control of the legislative power will adopt the proposition as an article of party faith. To-day the "American Protective Tariff League," through its organ, the American Economist, is pronounced in opposition, contending that the American farmer is "protected" by the imposition of effective duties upon foreign manufactures and by the maintenance of inoperative schedules of duties upon the wheat, the rye, the maize, the meats and the cotton we do not import but export, while free traders of the type of Secretary Morton would transplant all our work-shops to Europe in order that Americans might, possibly, buy as well as sell in the cheapest market, and compete with the redundant, illy-paid and miserably-fed labor of Europe, India, and the effective and very low-priced, if fairly nourished, workers of Japan.

I believe that we shall cease to export food, and the American farmer will have become the most prosperous member of the community—as well as the most complete monopolist on earth—long before our law-makers could be induced to even give serious consideration to the "Lubin" proposition.

It is an incontrovertible fact that the world area now employed in growing the bread-making grains (wheat and rye) is less than in 1884, and it is equally incontestable that the bread-eating populations would long since have been on exceedingly short rations and prices for breadstuffs have been something fabulous but for the related fact that no less than seven out of the last eight world harvests have given acre yields far above the average of either the last sixteen or twenty-four world crops; the acre yields of the last eight world harvests having averaged 1.43 bushels, or 12 per cent., above the average of the sixteen preceding world crops, and .84 of a bushel per acre, or 7 per cent., in excess of the average acre yields from the twenty-four crops of which the last eight constitute a third. As during the last eight years the world has produced some 81,000,000,000 bushels of the bread-making grains—wheat and rye—it follows that with but average acre yields from the areas employed during this

eight-year period, the supply of breadstuffs would have been quite 2,000,000,000 bushels, or 7 per cent., less than it has been since 1886. It is impossible to measure the effect upon prices, and in the condition of the farmer such a difference in the relations of supply and demand would have caused, but it is impossible to escape the conclusion that both the level of prices and the condition of the farmer, the world over, would have been exceptionally different from what they have been under the pressure of this extra 2,000,000,000 bushels of wheat and rye, and we can form some conception of how much higher prices will be, and how much the farmer will prosper—as an advance in the price of breadstuffs will affect the prices for all food staples—when acre yields the world over shall, for a succession of years, not exceed the average of either the last sixteen or twenty-four years, or of even the extraordinary average for the last eight phenomenal world crops. Of these extraordinary world crops but one—that of 1894—has given a product equalling present world needs.

The world's requirements for the bread-making grains now increase in the measure of about 40,000,000 bushels annually, while the world area under wheat is no greater in 1895 than 1884, and the world area under rye is now some 2,000,000 acres less than eleven years since. In other words, the world's supply of the bread-making grains for the 1895-96 harvest year was grown upon quite 2,000,000 less acres than was the world's supply for the 1884-85 harvest year, although in the meantime the bread-eating population has increased 14.8 per cent. That is, only a succession of extraordinary world harvests, due to an exceptional succession of seasons favored with unusually propitious climatic conditions, has enabled the bread-eaters to secure the needed supplies; and this, too, despite a shrinkage in the area employed. As even these great harvests would now be insufficient a change in the relations of supply, demand and prices, is inevitable as soon as existing reserves shall have been absorbed.

In view of these facts, and that climatic conditions vary only within given limits; that a series of moderate harvests have always followed a succession of large ones; that poor crops are both possible and probable; that current and probable additions to cultivated areas in the temperate zones aggregate less than 2,000,000 acres yearly, and that annual added requirements for maize and hay alone are yearly absorbing, taking the temperate regions as a whole, many more acres than are being added to the cultivated areas, it would appear that it is neither necessary nor desirable to pay bounties upon agricultural exports. The farmer would not need them at the end of the century, which is much earlier than such a radical change in the nation's fiscal policy can be effected.

That the world's consuming element, which has augmented by 14.8 per cent. in eleven years, has not only increased enormously while there has been in the world, as a whole, no increase in the power to produce bread, but an actual, if small, decrease, and that the power to consume increases far more rapidly than the world's power to produce any of the greater primary food staples of the temperate zones, is clear from the following table, showing world areas under such staples in the 1884-85, 1890-91 and 1895-96 harvest years, the increase or decrease in each area during eleven years, and the rate of such change:

| | 1884-85. | 1890-91. | 1895-96. | Eleven years | Rate of |
|------------------------|-------------|-------------|-------------|-----------------------|-----------------------|
| | Acres. | Acres. | Acres. | increase or decrease. | increase or decrease. |
| Wheat | 191,000,000 | 189,000,000 | 191,000,000 | | |
| Rye | 110,000,000 | 108,000,000 | 108,000,000 | 2,000,000* | 1.8** p. c. |
| Spelt and maslin..... | 8,800,000 | 7,700,000 | 7,700,000 | 1,100,000* | 2.7** p. c. |
| Buckwheat, etc., | 24,100,000 | 24,100,000 | 24,000,000 | 100,000* | 0.4** p. c. |
| Barley | 53,100,000 | 53,500,000 | 53,800,000 | 700,000* | 1.5* p. c. |
| Oats | 100,400,000 | 106,900,000 | 108,000,000 | 7,600,000* | 7.6* p. c. |
| Maize | 114,000,000 | 120,000,000 | 124,000,000 | 10,000,000* | 8.8* p. c. |
| Potatoes | 27,300,000 | 28,100,000 | 28,500,000 | 1,200,000* | 4.4* p. c. |
| Totals | 623,700,000 | 633,300,000 | 641,100,000 | 17,400,000* | 2.8* p. c. |

**Decrease. *Increase.

The enormous significance of the exhibit made in the preceding tabulation is still more manifest when we reflect that were acres under the several staples in the same proportion to the consuming population units as in 1884, the world area under wheat would now be 28,000,000 acres more than it is; that employed in growing rye, 18,000,000 acres greater; that devoted to spelt and maslin 700,000 acres more; that furnishing the buckwheat, millet, etc., 3,600,000 acres greater; the acres producing barley, 7,100,000 more; those growing oats increased by 7,000,000; the maize fields, 7,000,000 acres larger; the potato plots increased by 2,800,000 acres, and the area under all the primary

food staples included in the table aggregating 74,000,000 more acres than now.

It certainly is an astounding, if an incontestable statement, that since 1884 (only eleven years) the requirements of the bread-eating population of "European lineage" for the primary food staples have increased in the equivalent of average yields from 91,000,000 acres, while, in the same period, the additions made, in the entire world, to the areas producing such staples aggregate but a meagre 17,400,000 acres. In other words, the requirements for the primary food staples have increased five and a quarter times as fast—since 1884—as the power to produce such staples.

It is obvious that in 1884 the acres employed in growing the primary food staples were in excess of current needs, or that they are very deficient in 1895, were acre yields but average ones. Both propositions are true, and the meagre prices and the world-wide agricultural depression resulting are readily traceable, first, to an acreage excessive up to about 1887-88, and since to phenomenal acre yields (due to exceptionally favorable climatic conditions) from an acreage that, relatively to increasing requirements, yearly grows less, and that is now so defective as to promise scarcity and high prices for all staple soil products of the temperate zones whenever there shall be a succession of world crops affording not more than average acre yields.

Instead of annual additions to the areas employed in growing the primary food staples, averaging—since 1884—but 1,600,000 acres, such additions, to have been proportioned to the increase of the consuming population, should have averaged 8,270,000 acres, the annual average deficit reaching 6,670,000 acres. During the ten years preceding 1884, when we were opening 125,000 new farms yearly—the States average but 104,500 farms—the world added an annual average of 7,300,000 acres to the areas employed in growing the primary food staples, although requirements increased but four-fifths as fast as now. That is, from 1874 to 1884 annual additions to the bread-eating populations averaged 4,800,000, while they now approximate 6,300,000 units, the rate of increase being an ever progressing one as against constantly decreasing annual additions to the world's food-producing areas. To express it somewhat differently, the requirements for food increase by greater and greater yearly rates and aggregates while the power to produce food does and must, by the practical occupation of all the available arable areas, increase by progressively lessening rates and yearly aggregates.

Although the bread-eaters have increased 14.8 per cent. since 1884, it appears from the foregoing table that only in the case of oats and maize—by far the greater part of which is used as animal food, and entering largely into the sustenance of the bread-eaters only in the form of meats and other secondary products—has the area rate of increase even approached half that at which the consuming element has multiplied. As the meteorological conditions causing such phenomenal acre yields of wheat and rye since 1886 have had similar effects upon the yields of nearly or quite all other primary food staples, it is safe to assume that the parallelism will continue, and that after two world crops not above the average in acre yields, prices for all staple products of the soil will be high; that the farmer cultivating his own land will, because of the existing acreage deficit and the relatively small

SPECIFIC FOR SCROFULA.

"Since childhood, I have been afflicted with scrofulous boils and sores, which caused me terrible suffering. Physicians were unable to help me, and I only grew worse under their care. At length, I began to take



AYER'S

Sarsaparilla, and very soon grew better. After using half a dozen bottles I was completely cured, so that I have not had a boil or pimple on any part of my body for the last twelve years. I can cordially recommend Ayer's Sarsaparilla as the very best blood-purifier in existence."—G. T. REINHART, Myersville, Texas.

AYER'S THE ONLY WORLD'S FAIR Sarsaparilla

Ayer's Cherry Pectoral cures Coughs and Colds

ception of the conditions actually surrounding the production and consumption of the great food staples, both at home and abroad. C. WOOD DAVIS.

Effects of Subsoiling.

Editor Kansas Farmer:—The Allen county fair at Iola, that was postponed on account of the high water, has come to a successful close, and the managers are to be congratulated on their fair and its financial success. It was simply immense. There were over four hundred entries in the grain and vegetable department, and every other department was crowded to more than full capacity. Over sixty-five show horses, fifty cattle, forty-five hogs, seventy-five coops of fowls, forty sheep, twenty to thirty bugles, two windmills, two full lines of farm implements, including all the great big plow companies' latest subsoil plows.

As to the benefits of subsoiling, no sane man will deny it, but few have stopped to figure the actual benefits to the whole State. To simply cut out the dead furrows in a forty-acre field of corn, will make that field produce about ninety or probably one hundred bushels more corn, or about \$25 to every forty acres of corn. If we allow forty acres in every section of land in Kansas, we have the enormous extra yield of about 48,000,000 bushels of corn, which, at 25 cents, means \$12,000,000 for only one hour's work on each field of corn. Now, with these figures before us, have we any right to howl? There is no doubt in my mind but that subsoiling is of immense benefit. I sub-broke a small piece three times and thoroughly pulverized it, to the depth of twenty-four inches, and it has absorbed every drop of rainfall for twelve months, and has only just got full, and the nature of the soil is now entirely changed, and it is now in every respect exactly the same as bottom land. I dug my Early Ohio potatoes out of it, mowed the crab grass, when it was knee-high, three times, and am now plowing under a third crop that is three feet tall—more growth than in three previous years. In my plowing I run out into ground that was not sub-broken, and the difference in the texture of the soil is appalling. There is millions in it.

CLARENCE J. NORTON.
Morantown, Allen Co., Kas.

Would you kill the weeds in your garden, plant it with good seed; if the ground be well occupied there will be less need of the hoe.—A. Fuller.

Are You Hard of Hearing or Deaf?

Call or send stamp for full particulars how to restore your hearing, by one who was deaf for thirty years. John Garmore, Room 18, Hammond Bldg., Fourth and Vine, Cincinnati, O.

Old Mexico.

Modern Mexico is a beautifully illustrated monthly journal, published in the English language, and devoted to the interests of Mexico. Send 10 cents for sample copy. Address Modern Mexico Publishing Co., Topeka, Kas. Mention KANSAS FARMER.

The Stock Interest.

THOROUGH-BRED STOCK SALES.

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

OCTOBER 23—J. H. Pegram, Virgil, Kas., Poland-China swine.
OCTOBER 1—C. G. Sparks, Mt. Leonard, Mo., and G. L. Davis, Elmwood, Mo., Poland-China swine.
OCTOBER 29—Kirkpatrick & Son, Connors, Kas., Aberdeen-Angus cattle and Poland-China swine.
OCTOBER 29—Chas. Cannon, Harrisonville, Mo., Poland-China swine.
OCTOBER 30—L. N. Kennedy, Nevada, Mo., Poland-China swine.

IMPORTANT HOLSTEIN-FRIESIAN FACTS.

The Holstein-Friesian Association of America, at its annual meeting in March, 1894, for the purpose of stimulating and awakening breeders to a lively interest in the Holstein cow as a butter-producing machine, passed the following resolution:

"Resolved, That the board of officers be authorized to offer not to exceed \$1,000 in prizes for authenticated weekly butter records made under the supervision of the Superintendent of Advanced Registry, or some inspector designated by him, or made under the direction of the officer of some experiment station or State institution of some State; such tests to be made on the basis of the rules for admission, to the Advanced Registry, and must be entered in that registry. The amount offered to any one cow not to exceed \$50; and then the prizes to decrease in amount in ratio to such records. Such prizes to be offered for various ages, as in Advanced Registry rules."

This prize list brought out from the Holstein-Friesian camp thirty-five cows and heifers that were officially tested and entered for prize competition. Of this number ten were two-year-old heifers, ten were 3 and 4 years old, and the remaining fifteen were from 5 to 11 years old.

For the purpose of further ascertaining for his own satisfaction as a dairyman and breeder the actual value of a fair type of the Holstein-Friesian cow, the writer has spared no pains to secure an accurate statement of the amount, kind and cost of food consumed by each animal in this test, over the age of 3 years, incidentally demonstrating to the dairy public that the large black and white cow is not only capable of producing a large amount of milk and butter, but that she is capable of doing it profitably and economically, so much so that the following table, showing results of the test, demonstrates conclusively again the oft-repeated statement of those owners of Holstein-Friesian cattle who are business dairymen, that had the Holstein cow been in the Columbian tests she would have been an outstanding winner, when comparing the amount of butter produced, the cost of its production, and the net profit.

In making the calculations of this table, the cost of production was figured on the basis of its actual food cost when purchased, or at its market value if raised upon the farm owned by the competitor. In some cases the cost of the different foods consumed by the Holsteins exceeds that fed at the Chicago test, and vice versa, but as a whole, the prices average about the same. My purpose, however, is not to assume the same cost of feed as established by Chief Buchanan for the Chicago test, but I have ascertained from the different breeders having animals in the Advanced Registry test, the actual food cost of producing the results, so that we know exactly what each cow earned for her owner during the week under test.

It is but fair to state that the entire number of animals mentioned in this test represent only six breeding establishments of America, and that there are many other herds from which animals could have been selected that would have been expected to produce records of the same excellent character.

It will be noticed that the following list contains but twenty-five animals of the thirty-five tested; the ten two-year-old heifers being omitted, so there may be a more direct comparison with the twenty-five fully matured cows (Jerseys) in the dairy test at Chicago. There were sixty-four mature Jersey cows, selected as the best representatives of that breed, sent to the Jersey barn at Chicago, and of this number at least forty-seven calved in their new quarters, which, more than anything else, makes a cow feel at home among new and unusual surroundings. From the above number the final twenty-five cows were selected to enter the ninety

days' test, hence it appears that the twenty-five Jerseys reached nearer the very best producers of the breed than do the twenty-five Holstein cows, from the fact that of the twenty-five Holsteins ten were only 3 and 4 years old; many of the leading herds were not represented, and many were tested when it was convenient for the different experiment stations to send a man to supervise the tests. It is, therefore, a question whether there was a Holstein animal tested when actually at her best. On the other hand, the Jerseys were most of them in the fifteen, ninety and thirty days' tests, and we find greater latitude to select from the results of their every-day performance yields of a more extraordinary character. In short, the week each Holstein was tested, she may or may not have been at her best.

At Chicago the butter was credited to the cows at from 40 to 50 cents per pound, and for the purpose of comparison, in this table the butter of the Holsteins is credited at the lowest Chicago test price of 40 cents per pound. I desire here to venture an opinion that a test conducted on a basis of fictitious and ridiculously high prices for a product is not a test of greatest value to the average well-to-do dairyman, because not one in a hundred can find a market at 40 to 50 cents per pound for butter. However, if fair for one breed to assume such value for its product, it is fair for others, and there can be no comparison otherwise. In this table will also be found a column showing "net profit with butter at 25 cents per pound," which will give our readers a practical view of the worth of the Holstein cows when brought down to attainable prices.

| Name of Animal. | Pounds and oz. of milk produced in one week. | Av. per cent. fat. | Total w'tk's at. bs. | Am't butter 80 pr. ct. fat. lbs. | Value of butter at 40c. per lb. | Value of skim milk at 20c. per 100 lbs. | Value of butter and skim milk. | Cost of all food consumed during w'tk's test. | Net profit above food cost, butter at 40c. per lb. | Net profit above food cost, butter at 25c. per lb. |
|-----------------------------|----------------------------------------------|--------------------|----------------------|----------------------------------|---------------------------------|-----------------------------------------|--------------------------------|-----------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Mutual Friend 3d..... | 3 409 8 | 4.27 | 17.472 | 21.840 | \$ 8.74 | \$.654 | \$ 9.394 | \$ 2.85 | \$6.544 | \$3.264 |
| DeKol 2d..... | 10 536 12 | 3.96 | 21.261 | 26.576 | 10.63 | .858 | 11.488 | 2.69 | 8.800 | 4.812 |
| Mutual Friend 2d..... | 7 585 2 | 3.52 | 20.608 | 25.760 | 10.30 | .936 | 11.236 | 3.92 | 7.316 | 3.456 |
| Rosa Bonheur 5th..... | 5 682 | 3.97 | 20.270 | 25.337 | 10.13 | 1.091 | 11.221 | 2.68 | 8.541 | 4.745 |
| Canary's Mercedes..... | 6 409 8 | 4.92 | 20.129 | 25.161 | 10.06 | .654 | 10.714 | 2.80 | 7.914 | 4.144 |
| Houwtje D..... | 6 625 2 | 3.00 | 18.790 | 23.487 | 9.39 | 1.000 | 10.390 | 1.46 | 8.930 | 5.411 |
| Netherl'd Pietertje Princ's | 3 361 | 4.02 | 14.496 | 18.120 | 7.25 | .578 | 7.828 | .99 | 6.838 | 4.118 |
| Bell Sarcastic..... | 4 548 8 | 3.02 | 16.446 | 20.737 | 8.29 | .877 | 9.167 | 1.46 | 7.707 | 4.601 |
| Inka 4th's Pietertje Rosa, | 4 509 6 | 3.44 | 17.522 | 21.902 | 8.76 | .814 | 9.574 | 2.24 | 7.334 | 4.049 |
| Pietertje Hengerveld..... | 4 492 2 | 3.55 | 17.482 | 21.852 | 8.74 | .787 | 9.527 | 2.24 | 7.287 | 4.010 |
| Nannette's Pledge..... | 4 361 | 4.84 | 17.470 | 21.837 | 8.73 | .578 | 9.308 | 2.24 | 7.068 | 3.797 |
| Netherland Hengerveld..... | 6 465 | 3.48 | 16.187 | 20.233 | 8.09 | .744 | 8.834 | 2.24 | 6.594 | 3.582 |
| Helena Burke..... | 4 412 8 | 3.41 | 14.348 | 17.935 | 7.17 | .659 | 7.829 | .99 | 6.839 | 4.152 |
| Jessie Beets..... | 6 412 10 | 3.74 | 15.445 | 19.308 | 7.72 | .659 | 8.379 | .99 | 7.389 | 4.495 |
| Wetake's Pappoose..... | 4 353 6 | 3.53 | 12.485 | 15.606 | 6.24 | .564 | 6.804 | 2.24 | 4.564 | 2.225 |
| Netherland Sada..... | 7 387 2 | 3.62 | 14.012 | 17.615 | 7.01 | .619 | 7.629 | 2.24 | 5.389 | 2.757 |
| Neth. M. A. Constance..... | 4 489 9 | 3.15 | 13.824 | 17.280 | 6.91 | .702 | 7.612 | 1.69 | 5.922 | 3.332 |
| Aaggie B..... | 5 412 12 | 3.25 | 13.400 | 16.750 | 6.70 | .659 | 7.359 | .99 | 6.369 | 3.856 |
| Aulinda 2d..... | 8 361 4 | 3.57 | 13.312 | 16.640 | 6.66 | .578 | 7.238 | 2.84 | 4.398 | 1.896 |
| Zur 2d..... | 7 388 14 | 3.32 | 12.900 | 16.250 | 6.50 | .621 | 7.121 | 2.24 | 4.881 | 2.443 |
| Woodland Queen..... | 7 343 4 | 3.59 | 12.320 | 15.400 | 6.16 | .549 | 6.709 | 2.24 | 4.469 | 2.159 |
| Bibiana's Pet..... | 7 335 2 | 3.13 | 12.337 | 15.171 | 6.07 | .616 | 6.686 | 2.24 | 4.446 | 2.168 |
| Johanna 5th..... | 7 592 8 | 2.98 | 17.658 | 22.072 | 8.83 | .947 | 9.777 | 1.92 | 7.857 | 4.545 |
| Schoone..... | 11 452 11 | 3.34 | 15.120 | 18.900 | 7.56 | .723 | 8.288 | 1.24 | 7.043 | 4.206 |
| Countess Clothilde..... | 4 316 5 | 3.84 | 12.134 | 15.167 | 6.07 | .506 | 6.576 | 1.69 | 4.886 | 2.607 |
| Totals..... | 11,242 10 | | | 496.834 | \$198.71 | \$17.973 | \$216.688 | \$51.36 | \$165.325 | \$90.814 |

The butter of the Holsteins was calculated by the rule established at Chicago, of 80 per cent. fat. Eighty pounds of skim-milk in the Holstein test are credited to every one hundred pounds whole milk, and the skim figured at 20 cents per one hundred pounds; and the fact that the tests were personally and directly supervised by representatives of different experiment stations or State institutions of the State from which the cows were entered, establishes the absolute accuracy of these tests by the highest authority.

In the Chicago test the cows were credited 4½ cents per pound for every pound increase in live weight, which factor is not taken into account in the Holstein test, and another point of no little importance is that the Jerseys were, in the language of the chairman of the Testing committee, "watched over with the greatest care and handled with the most wonderful skill," and the Holsteins received their ordinary care by herdsmen, many of them comparatively unskilled.

The total seven days' milk of the twenty-five Holstein cows was 11,242.63 pounds, an average of 64.24 pounds per day. The average milk per Jersey cow per day for the first week of the ninety days' test at Chicago was 36.6, which is exceeded by the Holsteins by 29.64 pounds per cow per day.

The total week's butter of the twenty-five Holsteins is 496.83 pounds, an average of 19.87 pounds per week, or 2.83 pounds per cow per day. The average amount of butter produced by the Jerseys in the ninety days' test was 170.96 pounds, or 1.89 pounds per cow per day, which is exceeded by the Holsteins by .93 pounds per cow per day.

The food cost of one pound of butter for the Holsteins was 10.33 cents, and that of the Jerseys 13.75 cents per

pound, from which it will be seen that the Holsteins produce a pound of butter by over 3 cents cheaper per pound than did the Jerseys.

The highest net profit per day of any cow in the ninety days' test was that of Brown Bessie, of 81 cents. The average net profit per day of the entire twenty-five Holsteins was 94 cents per cow, and coming down to a practical and reasonable basis of 25 cents per pound, we find the average net earning of the entire number of Holsteins to be 51 cents per day, which is conclusive evidence that the Holstein cow can yield a handsome profit, and is not an expensive cow for the dairyman of this country to keep.

The highest week's yield in butter during the ninety days' test was that of Brown Bessie, of 20.163 pounds, which is exceeded by twelve of the twenty-five Holstein cows, and of these one cow was 3 years old, and four were only 4 years old.

The best day's production of butter in the ninety days' test was that of Brown Bessie of 3.48 pounds. The best twenty-four hours' yield of any Holstein was that of De Kol 2d, of 4.308 pounds.

During the World's Fair test only eight times was a yield made of upwards of three pounds of butter in a day, and in the Holstein tests ten of the twenty-five cows average over three pounds per day for the entire week.

It has often been hurled at us that our breeders dared not enter the Columbian dairy test to compete with other dairy breeds where cost of production was to be taken into consideration; for my own satisfaction I have made careful analysis of both tests, taking into consideration every point

that would give each breed justice and fair play, and have made my calculations from facts.

I think the advantage of the Holsteins being tested at home, though perhaps not entirely, is in a measure offset by some points which favor the Jerseys, viz., scientific feeding, a longer time tested, and a better representation of the highest producing cows of the breed. Anyway, from the conditions under which both breeds were tested, whether on an equal basis or not, I find the Holsteins produced more milk, made more butter per cow, and at a less cost than did any of the breeds in the World's Fair test, and this by a very strong lead, so strong that any one examining the above table must concede that the Holsteins produce milk and butter profitably, and the facts here set forth hardly warrant the comments which have been made by thoughtless people and owners of rival breeds for not entering our breed in the World's Fair dairy test.

Rosendale, Wis. W. J. GILLET.

Southdown Premium-Winners at Illinois State Fair.

Editor Kansas Farmer:—The largest and best display of Southdown sheep in this country has been made at the Illinois State fair. One hundred and four entries were made, exceeding in this respect all other breeds. The ribbons were distributed by S. H. Todd, of Ohio, and while there were some differences of opinion as to his judgment in all cases, it must be considered that with competition in every class sharp, it could hardly be expected that in a display of the best animals ever presented for a judge's decision, there would not be some to take exception to his judgment. In making up the rings the exhibitors kindly presented as few animals as pos-

It Pays

to use Vacuum Leather Oil on harness and shoes. Get a can at a harness- or shoe-store, 25c a half-pint to \$1.25 a gallon; book "How to Take Care of Leather," and swob, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

Sold only in cans, to make sure of fair dealing everywhere—handy cans. Best oil for farm machinery also. If you can't find it, write to

VACUUM OIL COMPANY, Rochester, N. Y.

sible, and in this way lightened the judge's task.

For ram 2 years or over, Geo. McKerrrow, Sussex, Wis., got first; and Geo. Allen, Allerton, Ill., second. For ram 1 year and under 2, W. E. Spicer, Harvard, Neb., first; Geo. Allen, second. For ram lamb under 1 year, Geo. Allen, first; Geo. McKerrrow, second. For ewe 2 years old or over, Geo. Allen, first; Geo. McKerrrow, second. For ewe 1 year old and under 2, Geo. McKerrrow, first; Geo. Allen, second. For ewe lamb under 1 year, T. P. Hamilton, Mexico, Mo., first, and Geo. Allen, second. For ram of any age, ewe 2 years old or over, ewe 1 year old and under 2, ewe lamb under 1 year, Geo. McKerrrow, first; Geo. Allen, second. For four lambs, two rams and two ewes, the get of one ram, bred and owned by the exhibitor, W. E. Spicer, first; Uriah Privett, Greensburg, Ind., second. The first premium in this class wins the first five volumes of the "American Southdown Record," a special premium offered by the American Southdown Breeders' Association. For sweepstakes ram the purple ribbon was given to Geo. McKerrrow. For sweepstakes ewe the purple went to Geo. Allen. These two sweepstakes premiums also carry with them special premiums, the first four volumes of the "English Southdown Flock Book," offered by the American Southdown Breeders' Association.

Southdown breeders throughout the country may well be proud of the excellent showing made by this breed at this the leading fair of America. It is the first time that these sheep have been exhibited in larger numbers than any of the other breeds, and the exhibit was such that words of praise and congratulation were heard from the knowing ones that had the pleasure of seeing this lot of beauties. The demand for these incomparable mutton sheep has been so great that exhibitors report that they have few if any animals for sale. Breeders throughout the country who yet have some of them for disposal should let this fact be known through the live stock journals. J. G. S.

What a Woman Can Do.

I want my lady friends to know of the new field now open for them. In the past six months we have made a profit of \$907.02 after paying all expenses. All our sales have been made at home, not having canvassed any. My official duties calling me away most of the time, I left the Dish Washer business in my wife's control with the above results. The business is rapidly increasing, and will continue to grow until every family has a Perfection Dish Washer. Not a day passes but we sell one or two, and some days fifteen or twenty dish-washers. It's easy selling what everybody wants to buy. You can wash and dry the dishes perfectly in two minutes. For full particulars address the Perfection Mfg. Co., Drawer a-3, Englewood, Ill. Get a sample washer and you can't help but make money. They only cost \$5. You may just as well be making \$5 a day as to be doing nothing.

Kansas City--Cincinnati.

(Wabash and B. & O. S. W.)

A vestibule sleeping car leaves Kansas City Union depot every day at 6:20 p. m., via the Wabash railroad, running through to Cincinnati, O., without change, via B. & O. S. W. railroad from St. Louis, arriving in Cincinnati at 11:30 next morning, making the run in seventeen hours and ten minutes, the fastest time ever made. On this same train are through sleepers to Washington, D. C., Baltimore and Philadelphia, and passengers for points east of Cincinnati can step from the Kansas City-Cincinnati sleeper into the through sleepers any time after leaving St. Louis. Passengers for Louisville and points South leave the sleeper at North Vernon at 9:34 a. m.

For Kentucky and South this sleeper is a great convenience.

The Wabash is the only road offering this through car service. Sleeping car berths secured at Wabash ticket office, Ninth and Delaware streets, or write to

H. N. GARLAND,
Western Passenger Agent,
Kansas City, Mo.

Irrigation.

REPORT OF KANSAS IRRIGATION BOARD.

By Hon. W. B. Sutton, Secretary, read before the fourth annual meeting of Kansas Irrigation Association, at Garden City, October 1, 1895.

All who are familiar with the growth and progress of the irrigation movement in Kansas, must ascribe great credit to the Kansas State Irrigation Association. Its idea was born of the troubles and distresses which assailed the dry farmer in the semi-arid portions of the State. We look back over the road it has traveled with mingled feelings, in which amusement plays no small part. Those of us who have done pioneer and missionary work in this field, remember the consternation which seized the real estate agent when an irrigation meeting was about to be held in this town. One would have supposed that he belonged to the army of the "great unwashed" and was threatened with a deluge. The local politician shook his wise and crafty head and wondered what effect this strange agitation might produce upon his already deeply-laid scheme for personal advancement, and it is not much to his credit that his first conclusion was to oppose it.

Some of us recollect meetings held in the larger towns, which will yet be saved by water or eternally lost, and remember that, through the influence of the panic-stricken real estate man and the alarmed politician, our audiences were narrowed down to a few earnest farmers who, through careful study of their Bibles and observation of the weather, had settled the proposition which still puzzled the real estate man and the politician, viz.: That streams of limpid water were far more productive of vegetation than "procrastinated precipitation."

To-day all this is changed. The real estate man, through this irrigation agitation, is opening his eyes to the truth, and the politician, ever anxious to bestride the winning horse, has come to the solemn conclusion that water will materially assist the solution of the agricultural problem.

In those early days the mention of irrigation provoked a smile. Now it suggests only one serious question—"where shall we get the water?" This Western country is full of people who ask no other question, and if satisfactorily answered are ready to devote their energies and expend their money in its application to the soil.

The old method of dry farming has had, upon these Western plains, a trial of twenty years, and while isolated instances of success may be found, the general result is against the hope or expectation that these plains will be able to support a large population and grow in material wealth and attain a higher civilization by following the old method. This opinion is shared by a large majority of the thoughtful, intelligent settlers in this country. It has come to be a fixed conviction in the outside world which looks in upon us and observes us. We meet one of two alternatives, and are in the crisis of a choice between them. One is, to turn back these broad plains to the undisputed sway of the cattleman, to lead upon them a wild, nomadic life, shorn of the advantages of society, schools, churches, and all higher enjoyments. The other is, to adopt a new method, a different system of agriculture and renew the struggle to overcome the adverse conditions of nature, with every assurance of ultimate success.

It was this conviction that banded together the representatives of the western counties in the last Legislature, to work without ceasing, to harmonize conflicting ideas, to abandon individual convictions and beliefs, and to take what was possible in their struggle for an irrigation law, appropriation, and machinery for its expenditure, to the end that some tests should be made, some data collected which should guide our people in revising their plans and expending their money and energy in this new attempt. The Kansas State Board of Irrigation is the result. It is the advance guard thrown into the enemy's territory to feel his strength and ascertain his position, and we realize fully that upon the report which we are able to make to the people, our employers, much of the immediate future of the irrigation movement will depend.

We are anxious to know what is our water supply, what we have done and what more we think we can do and what is to be the final outcome. The water supply of western Kansas consists—

First—Of the waters flowing mainly in the Republican, the Solomon, the Saline, the Smoky Hill, the Arkansas, the Medicine and the Cimarron, which all

may be grouped under the term of run-off water.

Second—The water-flow of each of these streams, it being now a well settled fact that the valleys of the Kansas rivers and streams, generally speaking, have an underflow corresponding in width to their valleys, most of them supposed to be capable of yielding a quantity of water as great or greater than that flowing in the stream bed above the ground.

Third—The upland underflow underlying nearly all the uplands of the western portion of the State, bounded eastward by the jagged line crossing and recrossing the 100th meridian and lying below the surface at a depth from twenty to 200 feet.

Fourth—There is another underflow or sheet of water under portions of the State in Rice, McPherson, Ellsworth, the eastern portion of Russell, Mitchell, Osborne and Jewell counties, from which a great many acres may be successfully irrigated.

Fifth—A fifth source of supply will be the impounding of surface water on the uplands within a short distance of where it falls. Small catchment areas. In a sense, the accurate measurement of a stream at a given point and the rainfall within its basin will give us the percentage of run-off water of its whole drainage area, but the percentage of evaporation must bear a relation to the size of the drainage area. Evaporation bears a ratio to the surface exposed. While the measurement of a stream may very satisfactorily show how much water runs away from its drainage basin, it is far from determining the quantity of water which may be collected within the drainage area and

streams west of the 98th meridian, and the amount of run-off water from the surface."

In a very short time an arrangement had been concluded, under the terms of which "Uncle Sam" furnished all the necessary instruments and implements, established and paid for the measuring stations, employed a skillful civil and hydrographic engineer to take charge of the stations, leaving the State board to employ and pay a man at each station to take the daily readings of the depth of water, at an expense of \$5 per month for each station.

It is estimated by competent authorities that the part taken in this stream measurement by the United States government for the two years for which the board lasts, if undertaken by the State board on its own responsibility, would cost the entire appropriation, but under the present arrangement it will cost the State less than \$1,000 for the two years.

Seven measuring stations have been established—one at the city of Beloit, for the measurement of the Solomon river; one at Beverly, for the measurement of the Saline river; one at Ellsworth, for the measurement of the Smoky Hill river; one at Hutchinson, for the measurement of the Arkansas river; one near Arkalon, for the measurement of the Cimarron river; one near Kiowa, for the measurement of the Medicine river. Duplicate reports of the observations at these stations are furnished to the United States government and to this board.

I give a partial table, which approximately shows the quantity of water (subject to more careful revision and computation) discharged by the Saline, Smoky Hill and Arkansas for the

date thirteen pumping stations, a table of which is here given:

| No. station. | County. | Depth of well. | Depth to water strata. | Thickness of water. | Lowest stratum reached. | Power used. |
|--------------|-----------|----------------|------------------------|---------------------|----------------------------|------------------------------|
| 1 | Hamilton. | 156 | 170 | 12 | Yellow shale or sandstone. | 16-foot steel b-g. windmill. |
| 2 | Gray. | 61 | 42 | 20 | Sand and gravel. | 16-foot steel b-g. windmill. |
| 3 | Grant. | 166 | 127 | 15 1/2 | Gravel. | 16-foot steel b-g. windmill. |
| 4 | Sherman. | 163 | 74 | 61 | Black shale. | 10 h. p. gas-engine. |
| 5 | Wichita. | 89 | 52 | 27 | Black shale. | 16-foot steel b-g. windmill. |
| 6 | Lane. | 110 | 90 | 6 | Black shale. | 16-foot steel b-g. windmill. |
| 7 | Trego. | 213 | 188 | 25 | Black shale. | 16-foot steel b-g. windmill. |
| 8 | Hawkins. | 59 | 34 | 3 1/2 | Black shale. | 16-foot steel b-g. windmill. |
| 9 | Rock. | 130 | | | | 16-foot steel b-g. windmill. |
| 10 | For. | | | | | 16-foot steel b-g. windmill. |

It is the purpose of the board to test each one to ascertain the quantity of water it will furnish, the percentage of efficiency of the pump, the amount of water lost by evaporation, and the seepage from the reservoirs, and later on, in official publication, the exact results of these experiments and observations, and experiments will be given.

The board yet hopes to establish, during the coming season, the seven additional pumping stations, to test them all, to obtain reliable data of the quantity of water thus available and the cost of raising it to the surface for irrigation purposes.

If our means permit, we will, by a system of observations and measurements in numerous wells scattered over this entire territory, endeavor to determine whether the waters of this region are connected, whether year after year they stand on the same level, or rise and fall, and the source of supply.

In this work we anticipate and hope for the co-operation and invaluable assistance of the United States Geological Survey. We are satisfied that the quantity of this water is very great, and that it is destined to play a most important part in the development of agriculture and stock-growing on these plains.

We have also had at work during the summer geological surveying parties, under the charge of Prof. Erasmus Haworth, one of the advisory members of the board, to gather any and all information which would shed light upon the subject of our subterranean water supply and territory. Of this matter we will let Prof. Haworth speak for himself.

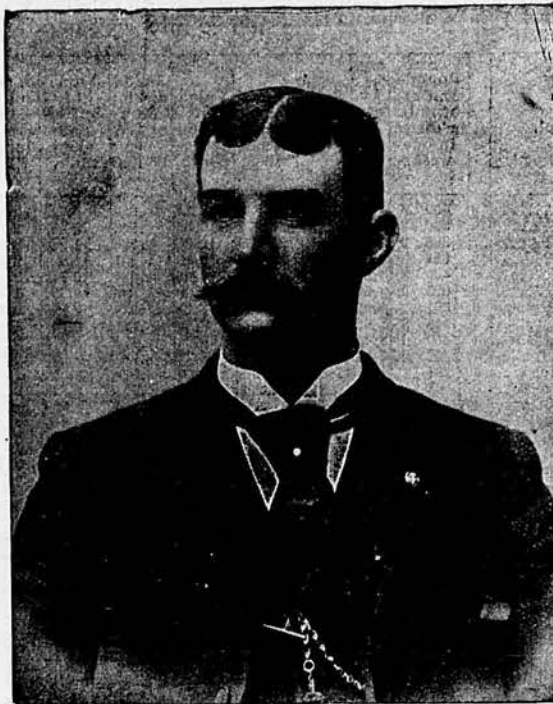
The board has further endeavored to collect and tabulate all available information and data as to the progress of irrigation in the State, operating by correspondence with the assessors of every township west of the 98th meridian. This table shows a summary of a part of the information thus obtained: Number who began irrigating for the first time in 1888, 26; in 1889, 13; in 1890, 28; in 1891, 18; in 1892, 33; in 1893, 55; in 1894, 224; in 1895, 1,241; total, 1,638. Number of irrigators reported using steam, 12; gasoline, 5; wind, 512; horse-power, 16. Number of answers to question: "Is irrigation by pumping a success?" Affirmative, 338; negative, 6.

The great number of irrigation plants constructed in 1895 is a most significant fact. It is probable, in the main, referable to the action of the Legislature in making an appropriation and adding the countenance and encouragement of the State to the efforts of the individual.

THE FUTURE.

Now, what do we think of the possible outcome of the irrigation movement, encouraged by intelligent liberal assistance on the part of the State and the general government? We think that it will demonstrate that western Kansas has a water supply sufficient for the irrigation of several million acres of land, which under intense cultivation will prove sufficient for the maintenance of hundreds of thousands of happy and prosperous homes.

By utilizing the waters of the streams and the underflow of the valleys, all the valley land can be irrigated, and under such methods this valley in which we are assembled today, between the city of Hutchinson and the Colorado line, will support a population equal to that dwelling in the entire State today, and the other valleys in proportion, and not a wall of calamity will be heard within their borders. The uplands present a



J. H. CHURCHILL.
President Kansas Irrigation Association.

made available for irrigation purposes.

For instance, three inches of rainfall in one of our river drainage areas. Some of it hurries to the stream, passes over the gauge and is measured, and quantities are caught in shallow depressions, and, by exposing a large surface to the air, is quickly evaporated. If this water was impounded, quickly gathered into deep reservoirs, whereby evaporation would be immediately arrested, incalculable benefit might be derived from it.

It is very important that experiments be made on small drainage areas to determine the quantity of water which may be gathered from these sources.

Our board was commissioned on the 7th day of March and will exist for two years.

Our first important step was to enter into negotiations with the Geological Department of the United States government and invoke their assistance and co-operation. Our negotiations were looked upon by the government with great favor. I read an extract from a letter written by Prof. Newell, of the United States Geological Survey, under date of March 12, 1895, addressed to Hon. D. M. Frost, President of the board:

"A copy of the irrigation act passed by the Kansas Legislature has just been received. The act, I note, instructs your board to do an extraordinary number of things, all of which cannot be satisfactorily accomplished for many times the sum appropriated; but I suppose you will try to do those things deemed most essential and which will yield the most immediate results. Among other items, I note in section 5, 'To make observations, measurements and experiments to determine the quantity of water flowing annually in the

months of June, July and August, making a grand total for the three months of 707,928 acre feet. Probably the addition of the other streams—the Solomon, the Republican, Cimarron and Medicine—will make a grand total of at least 1,200,000 acre feet for the months of April, May, June, July and August:

| | June, 1895. | July, 1895. | August, 1895. | Total acre feet. |
|---------------------|-------------|-------------|---------------|------------------|
| Saline river..... | 20,000 | 28,866 | 6,018 | 54,884 |
| Smoky Hill..... | 75,206 | 103,512 | 21,374 | 199,892 |
| Arkansas river..... | 58,678 | 222,448 | 172,026 | 453,152 |

I will not take your time to listen to my computation to show what a proper use of this water would have accomplished. Let it suffice to say it would have irrigated 120,000 acres one foot deep.

Having set in motion the machinery for measuring our streams and thus ascertaining the quantity of water available for irrigation from these sources, we turned our attention to what seemed to the board the most imperative part of the act, viz., the establishing of twenty pumping stations to test the water supply of the upland underflow.

The water-bearing strata vary much in composition, from very fine sand to coarse gravel, and we suspect there will be great differences in the quantity of water furnished by the different wells, not because of the lack of supply in the earth but by reason of the unequal speed with which it is able to pass through the strata into the well. Samples of every stratum penetrated have been collected and are being set up in glass for preservation.

The board has established up to this

problem not so easily prophesied about, but full of hope and encouragement.

If every settler will select his location with a view to irrigating five acres and upwards, according to his means and facilities, cultivate that as his primary work, to such crops as will best meet the needs of his family and stock, start his herd of cattle and expand on well-balanced lines, keeping everything in its proper proportion and ratio, and don't get horse crazy, cattle crazy, hog crazy, wheat crazy, or any other form of craziness, very few will fail.

Let me picture a man located on a quarter section of "the high rolling prairie," with one or more irrigation plants operated by wind power, having twenty or thirty acres under intense cultivation. He has a herd of cattle which roam outside; he has trees around his home, flowers bloom in his door-yard, fruit ripens in his orchard, his cellar is stored with all the products of the soil; stacks of alfalfa, hay and fodder for his stock through the storms of winter; an ice-house filled from his reservoir; fish as convenient to his table as the poultry in his henry, and of the finest quality, grown in the cool, clear water of his reservoirs. What say you of his condition? Is he well situated, or an object of pity?

There is room for thousands of them. It now looks to me as though this form of occupancy would be the first stage of improvement and progress to be expected on the plains, and if we can demonstrate its practicability, the people to adopt it and enter upon and settle the whole territory are waiting to come in.

I don't mean to deny the privilege of gambling with nature in dry farming. I only want to caution everybody against growing too fond of it.

We are accustomed to associate the idea of irrigation with dams in rivers and ditches, leading the water to great distances, and to regard a windmill as a machine only suited to pump water for the kitchen. But windmills can be made large and strong and can operate pumps of corresponding capacity, and if the water is there, can lift immense quantities of it to the surface. When you own and control your own irrigation works you are exempt from many accidents and inconveniences which beset those who depend on ditches. You are independent, are not subservient to a higher power which necessarily holds arbitrary control over the water in the ditches. Irrigation by windmills, where the water lift is not too great, will be found cheaper and more satisfactory than from ditches. As a rule, your supply is not affected by drought nor rendered uncontrollable and destructive by floods.

The highest civilization in ages past has clung around the irrigation works. The future will not prove an exception to the rule, and the day will come in our history when the highest form of rural intelligence, culture and prosperity in this country will be found under the shadow of the windmill or its substitute.

Men become more humane, broad-minded, by a closer association with one another, provided one thing is added—a sure subsistence for each without preying upon the others. The most peaceful aggregation of animals is a herd of cattle with abundant pasture for all. The reverse is an aggregation of men or wolves with scant subsistence for each.

My view of the future of western Kansas is bright and hopeful. She has a delightful, healthful climate and a marvelously fertile soil, needing only water. She has the water.

That agriculture has not been generally successful without the use of water is far from convincing me that it will not succeed with water. None are hardy enough to start out on the old plan, but if a few here and there will demonstrate the success of the new idea, thousands will flock in and avail themselves of the discovery, and the land will be filled with a fixed, contented, happy and prosperous people.

An irrigation department should forthwith be established in our agricultural college, in charge of a man who believes in irrigation, and stations established in parts of the semi-arid regions for the purpose of experimenting in the use of water and varieties of crops to be grown. The stations of this board would answer.

Several of our pumping stations should be turned over to the Fish Commissioner for fish hatcheries, and the good work pushed from every point, for the full development of the State.

MACHINERY AT GARDEN CITY FAIR.

The Weber Gasoline Engine.

The first plant encountered on entering the fair grounds was that of the Weber Gas & Gasoline Engine Co., of Kansas City, Mo. This was the largest plant, and throwing 2,500 gallons per minute with two centrifugal pumps, attracted deserved attention. The pumps were operated by a Weber No. 6 twelve horse-power engine. The irrigation department of this company has spent considerable time in attending and exhibiting their goods throughout the State and has received very high honors, among them two diplomas at the Garden City fair.

The Witte Gasoline Engine.

This engine was awarded first premium at the Garden City fair, for mechanical construction and simplicity of operation. This engine is thoroughly built in every respect, and it is a pleasure to note that the company is shipping them to all parts of the United States. There is now in course of construction one twenty-five horse-power engine, that goes to Ipswich, Mass. The engine exhibited at Garden City attracted universal attention, being a model ten horse-power. It was running one centrifugal pump and one walking-beam attached to an eight-inch lift pump. The low cost of operation and the durability of the Witte engine, have brought it into great favor with all who have acquainted themselves with its work.

The "Infidel" Pump.

H. B. Van Voorhis, of Ford City, had on exhibition a cheap, decidedly unique practical irrigation pump. He offered for sale, for \$10, an eight-inch plunger ten-inch discharge pump, guaranteed to throw 30,000 gallons of water per hour, at 200 strokes per minute. This does not include the tubing for more than ten feet. He offers to pay the expenses of any one doubting his statements, who finds on investigation that his claims are not sustained, providing the investigation is made with a view to purchasing. His confidence in being able to demonstrate the value and economy of his pump seemed to be justified by the earnest inquirers who crowded around his exhibit. The exhibitor has christened his pump "The Infidel," claiming that all progress has been made by those who do not accept established theories.

The Lightning Irrigation Pump.

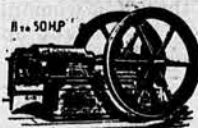
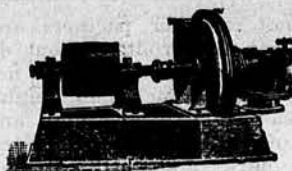
This pump was exhibited at the Garden City fair by the Kansas City Hay Press Co., but its use was discontinued, from the fact that the volume of water it threw was so large that with the appliances at hand it could not be kept from damaging other pieces of machinery. This pump is a novelty, but is built very strong, is simple in construction, and is not injured or impeded in its operation by a considerable percentage of sand, grit or trash in the water. This company had also on exhibition two other centrifugal pumps, which differed in form somewhat from the centrifugal pumps usually seen in the market, and are constructed with a view of making a better use of the power applied than has heretofore been attained. Their performance at the fair justified the manufacturers' claim that they are first-class machines and well adapted to irrigation work.

The U. S. at Garden City Fair.

The U. S. Water & Steam Supply Co. was represented by R. F. Cool, from the factory at Batavia, Ill., and E. P. Galley, of Kansas City, their western Kansas representative. This exhibit was the largest windmill exhibit at the fair and secured for their Gem mills the highest award. These are the mills that took first premium last year, and it certainly speaks well for the mills to have them acknowledged as the best in a locality where they are so well known. The sixteen-foot Halladay mill, operating an eight-inch Curtis double-acting pump, was the wonder of the crowd, as it furnished more water than any windmill plant ever exhibited in these parts. This exhibit was like everything this company does, complete, practical and first-class in every particular, and was at the same time instructive. All the plants were complete with wells and pumps such as are used in this part of the State.

Crane Company's Exhibit.

The Crane Co., of Kansas City, have long had a reputation for promptness in business and have shipped the best of everything in their line of goods. Their exhibit at Garden City was large and varied and the excellence of the performance of the several machines was highly commended by all observers. Their windmills were built very strong and were mounted on steel towers which were extra heavy, and constructed on the best mechanical



THE PREMIUM ENGINE
At Garden City Fair.

IRRIGATION MACHINERY.

If you want the most practical, efficient and cheapest irrigation pumping machinery, write for catalogue of Centrifugal and Triplex Pumps, Engines, Boilers, Gasoline Engines, etc., to

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The "WITTE" Always Takes First Premium!

The only engine for successful irrigation. Can be used for feed grinding, shelling, etc.

WE GUARANTEE RESULTS!

Witte Iron Works Co., Kansas City, Mo.

principles. This company manufactures and sells the Frizell pump cylinders, which are made in two patterns. The more expensive of these is constructed with a view of making the best possible use of the power applied, by furnishing through all parts of the pump water-ways full as large as the diameter of the cylinder. The other is a brass-lined, well-constructed tubular cylinder, with free working valves and fully up to the standard of the best made tubular cylinders. Their two horse-power gasoline engine appeared to require no attention from anybody, but simply went on pumping from morning to night. The Worthington pump is a standard machine of established reputation, and machinery men were not surprised to find it among Crane Co.'s exhibits. It turned out a small river of water. It received its steam from the boiler of a threshing engine, and required but a small fraction of the capacity of the boiler. It actually worked when the steam-gauge showed but five pounds pressure.

The Perkins Windmill—Oilless and Storm-proof.

The abomination of having to climb to the top of a windmill tower with a can of oil to prevent the machine from destroying itself, is entirely gone away by the graphite bearings of the Perkins windmill. So complete has been the success of these that no oil holes are made. These mills have been used for over twenty years, and those first erected are still running. So great is the confidence of the company in the power of the Perkins to withstand storms that the warranty agrees to replace all parts damaged by wind, even should the wind be a tornado. The Perkins has a compensating lever and spring by which the work of the mill is equalized, the power developed while the pump plunger is descending being stored and made to assist during the up stroke. The Perkins pumps are made with heavy brass tubing and are full measure inside. They are strong, have good valve action and the valves are both readily removable without disturbing other parts of the pump.

The "Secretary" Plow.

The John Deere Plow Co., of Kansas City, Mo., had on exhibition at the Garden City fair a new departure in stirring plow manufacture. This plow, called the "Secretary," is a revolving plow with subsoiler. Its construction at once suggests easy draft. In the field trial given it plowed a furrow thirteen inches wide and fifteen inches deep and was drawn by four horses. The subsoiler and revolving plow make an efficient combination, each assisting the work of the other. The entire machine is adjustable as to both depth and width of furrow. It may turn a shallow furrow while the subsoiler breaks up the bottom of the furrow to considerable depth, or the subsoiler may stir only a little in the bottom of the turned furrow, or it may all be run at great depth, as shown in the trial. The trial was witnessed by a large concourse of farmers, and was heartily commended. The editor of the Kansas Farmer was present and had no hesitation in saying that a notable and valuable advance and improvement had been made in plow construction. The exhibition was in charge of Will H. Fuller, of the Kansas City branch of the John Deere Plow Co.

Our First-Page Illustration.

Referring to the fine illustration of the noted Poland-China shown on our first page, and owned by A. W. Themanon, Wathena, Kas., we desire to state that Graceful F. Sanders 13095 S. was sired by J. H. Sanders 27219 O., the sweepstakes boar at the World's

Fair. His dam, Graceful F. 63408 O., won first in class and was in the aged herd that won first at World's Fair. Graceful F. Sanders won first and sweepstakes at St. Joseph, Mo., fair in 1895. He sired pigs that were winners at St. Joseph, Mo., and at Crawford county (Kansas) fair.

\$90 Agents Wanted everywhere to take orders for MARION HARLAND'S NEW BOOK, "Home of the Bible." Over 200 New Photos. Pleases Sells Fast. Pays Big. No experience needed. One sold 51 in 30 hours. Illus. Circula's Free. Address Historical Pub. Co., Phila.

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for men and women, quickly cures Rheumatism, Gout, Liver and Kidney trouble, Nervous Debility, indigestion and kindred complaints; it acts immediately upon the blood, nerves and tissues, producing more benefit in a few hours than medicine has given in weeks or months.

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PAUL MALL ELECTRIC ASSOCIATION, Room 10, 844 Broadway, New York.

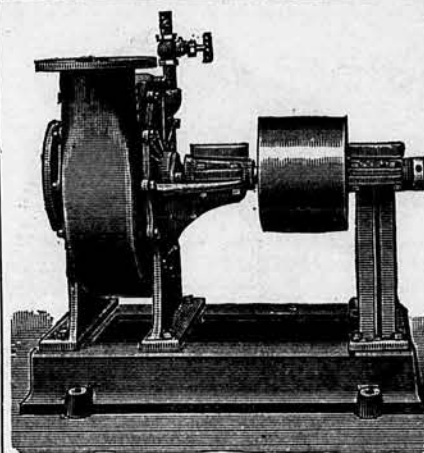
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This Excursion is designed for home-seekers who want to locate in the Beautiful Land of Sunshine, Fruits and Flowers, especially those who want to visit

FAIR OAKS AND OLIVE PARK, in the heart of California, and get a piece of the best land in the State, where the best and earliest fruits grow; in the best climate and adjacent to the best markets in the State; near a big city; water plenty, piped to each lot; electric cars, etc. Better still, considering advantages, the cheapest lands in the State. Address the FARM, FIELD AND FIRESIDE COLONY DEPT., Chicago, Ill.



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KANSAS CITY, MO.

DRAIN TILE

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20th and Main Sts., Kansas City, Mo.

IRRIGATION.

POWER FROM GASOLINE? YES.

It's very Economical, Simple, Safe and Reliable, and WEBER GASOLINE ENGINES require no Engineer. His salary goes into your pocket. For information add Weber Gas & Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.



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.

WHO KNOWS?

Who knows to-morrow what will be?
The darkest clouds may pass away,
And waves that toss upon life's sea
May gently break before the day.

Who knows that wealth will always smile,
The tide of fortune ever flow?
It may be but a little while
That joy may come and quickly go.

Who knows the aim of every life,
The weary years of toil and pain,
And all the struggle and the strife,
The loss of triumph one may gain?

Who knows the grim phantoms of care
That in every corner hide,
Or the heavy cross each one may bear
In passing o'er life's troubled tide?

Who knows when life's journey is o'er,
Its pain and pleasure all are done,
What the future may have in store,
The joy or sorrow for each one?

—Good Housekeeping.

THE POETS.

There's never a robin that pipes of spring,
Nor a stream that runs and leaps,
Nor a bee that dreams on drowsy wing
O'er a perfumed petal's deeps,
But has its rhymes and runes;
Its rhymes and runes,
Its subtle tunes,
Whose rhythm in silence sleeps.

There's never a star that spins in space,
Nor a leaf that falls to earth,
Nor a billow that wrinkles the ocean's
face,

Nor a rain-drop brought to birth,
But has its rhymes and runes
Its rhymes and runes,
Its mystic tunes,
Of sweet, unfathom'd worth.

There's many a soul that throbs in time
With the robin, the leaf, or star,
That may not voice the silent rhyme;
But some can hear afar:
And they, yes, they have rhymes and
runes,
And they can sing the mystic tunes,
For they the poets are.

—W. J. Henderson, in Harper's Weekly.

DEALS IN LIVE STOCK.

Kansas City Girl Meets with Success in the Commission Business.

The new woman has forced herself into almost every position of any note, but the idea of a real, live woman going into the live stock commission business is novel, to say the least. This wonderful woman is Miss Jennie Goodwin, of Kansas City. She is twenty-four years old, and for six years served as stenographer with a firm of live stock commissioners. Through her position she came in constant contact with customers, and became acquainted with nearly all of the leading shippers of the southwest. About two months



JENNIE M. GOODWIN.

ago she first thought of starting in business, and decided that she could succeed as well as many of the men who went into the same work, who were possessed of no more good sense or judgment than she herself claimed. She looked the field over thoroughly and carefully, weighing every suggestion she could think of pro and con, and finally determined that she could give as good service as anyone else, and a few weeks ago opened her office at the Kansas City stock yards. She has been fortunate in securing a good salesman, who has been at the yards since 1872, the year after Miss Goodwin was born. The hog man is also an old stock-yarder. Miss Goodwin is very popular about the exchange, and now that she is making her own way in the world finds that the number of friends have increased wonderfully. She has received propositions from several wealthy cattlemen to furnish the capital and incorporate a company, but she prefers to keep on as at present.

She does not care for partners and wishes to keep the profits without division. Miss Goodwin is slight and not over five feet three inches in height. Her forehead is broad and high and suggestive of intellectuality. Her eyes, which are dark and brilliant, are shaded by heavy lashes. Her chin is firm and her mouth that of a womanly woman. She is quick in thought and speech and a good talker.

RECEPTACLE FOR SHOES.

How a Clever Girl Made Use of a Discarded Outing Parasol.

A returned summer girl has found a novel use for her discarded outing parasol. She has removed one-half of it and fitted it with a flat back of pasteboard, as shown in the illustration, covering both this and the outside of the remaining half with cretonne to match the furnishings of her room. Each segment is furnished with a lining, which forms the pocket for a pair of dainty slippers or shoes, and as the pocket is no deeper than the length of the shoes,



A RECEPTACLE FOR SHOES.

they are kept in place. It may be covered with white duck from an old gown that is no longer serviceable and edged with a fall of coarse lace about the top. Use only a small parasol, and if you have not a frame of the right size you may fashion an umbrella shaped bag, so constructed that the effect will be that of a half open parasol. —N. Y. Herald.

HOW TO ECONOMIZE.

Never Buy Cheap Things Nor Things That Are Not Really Needed.

There is no falseness economy than to buy inferior goods, and this rule holds good for food as well as for clothes. A good material looks well to the end, and can be washed or cleaned and made up again in various ways. It is better to have one well-made dress of good material than two or three badly-made of poor stuff, which will look shabby and untidy after wearing once or twice. When dusting or sweeping an apron should always be worn, and for any very dirty work it is a good plan to change the dress, and wear an old one kept entirely for that purpose.

In household matters there are hundreds of ways in which economy can be practiced. For instance, in any room that is much used a rug or strip of carpet laid down near the door, where the most wear comes, will save the carpet and make it last twice as long.

White tablecloths should always have table napkins spread at the end where the carrying goes on, so that in case of any gravy being spilt only the napkins need be washed instead of the entire cloth.

In buying food always choose the best. Inferior meat and poor groceries are really no cheaper in the end, for the small amount saved by purchasing them is often expended twice over in paying doctor's bills and buying medicine to cure ills, many of which are caused by nothing but badly cooked, inferior and indigestible food.

Good cooking is a great help to economy, and is an art which should be more cultivated than it is, for to know how to make the best of everything and the most tasty way of using up all kinds of scraps is by no means to be despised.

Never buy anything that is not really needed just because you see it in a shop and it happens to be cheap. In buying groceries it is far more economical to buy fairly large quantities and store them than to buy small quantities whenever needed. Eggs can be bought

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

Royal Baking Powder

ABSOLUTELY PURE

in the summer when they are cheap and stored for winter use, and spices, rice, oatmeal, dried fruits, peas, candies, etc., can be kept for a long time if properly stored. Keep currants and raisins and other dried fruits in jars or tins, with covers, where flies will not be able to get to them. Tea and coffee should be stored in tin boxes or jars with tightly fitting lids so that the air is quite excluded.

A very economical plan, more frequently followed abroad than in England, is to have a stock-pot into which all odd bits of meat and bone, vegetables, and other odds and ends are put, to be used for making soup. All pieces of bread should be kept, made crisp in the oven, powdered, and kept in a tin ready for frying. Pieces of cheese, too dry for eating, can be powdered and used for flavoring macaroni and other dishes to which cheese is an improvement.

There are numberless ways in which a careful housewife can save money without making any appreciable difference in the comfort and well being of the inmates of the house, and it is a curious fact that the best cooks are frequently the most economical. —Home Notes.

SYSTEM IN HOUSEWORK.

A Good Thing Provided It Does Not Degenerate Into Idolatry.

One must confess to a fellow feeling for the little girl who did not like to visit where they always had times for things, and yet that it is very desirable to have system in the household goes without saying. But no wise housekeeper will make system a Moloch to which the comfort and convenience of the whole family must be sacrificed.

An experienced housekeeper knows that it is impossible to regulate household affairs by a set of fixed rules without seriously interfering with the freedom and pleasure of home life. The unexpected is always sure to happen, and a wise housewife will make her system so flexible as to be able to conform without serious friction to the unlooked-for emergencies of social life, and be prepared for frequent interruptions; else all the pleasure and sweetness of the little surprises of home and social life are spoiled by our inability to adapt ourselves to the exigencies of daily life. The ability of the housekeeper to conform easily and cheerfully to any little change in her household plans goes far to make or mar the comfort of the household.

It is a hard lesson for a systematic housekeeper to learn, this setting aside of our own plans, and entering heartily and cheerfully into others that rise up and confront one; but it must of necessity be learned if we desire to make our home all that a true home should be, and our home life pleasant and comfortable.

The wise housewife will make some provision for the unexpected, and have something in reserve for the requirements of hospitality. It is always well to be forehanded with our work, and keep things done in advance as much as possible; for nothing so tends to make a housekeeper nervous and fretful as an accumulation of housework and unexpected interruptions.

While no one need be the slave of system, a little wise forethought in preparing for emergencies will often save much care and perplexity. —Lizzie Clark Hardy, in Good Housekeeping.

Housekeeping and Homemaking.

Housekeeping is not always homemaking, and the modern woman is beginning to find it out. To live for the house and its glory is one mode of existence; another mode is to make the house exist for the sake of the people, who are to adorn it. The former is housekeeping; the latter is homemaking. You can discern the difference between a home and a house directly on

entering a domicile if you are half way observant. You can tell by the books and the tidies and the arrangement of the divans and the pillows and the lamps. The real state of things is in the atmosphere, and is as discernible as though written on the wall.

French Laws Concerning Babies.

It is not generally known that in France it is forbidden under severe penalties for anyone to give infants under one year any form of solid food unless such be ordered by a written prescription signed by a legally qualified medical man. Nurses are also forbidden to use in the rearing of infants confided to their care at any time or under any pretext whatever any nursing bottle provided with a rubber tube.

To Wash Light Silks.

When washing summer silks remove all grease or other spots with chloroform, then make a solution of a teaspoonful of ammonia and a little soap in a pail of water and into this dip the silk again and again until it looks quite clean. Do not wring it out, but press between the hands. Rinse in water from which the chill is gone, then hang in a shady place until partly dry, when lay between two cloths and press with a hot iron until it is quite dry.

The Latest in Funeral Flowers.

Flowers for funeral offerings are oftentimes now sent loose in a box, set pieces being justly regarded as stiff and plainly suggestive. Wreaths are still used, but they have become so full as to have lost the hollow of the center, and are, instead, a round mat of flowers. Something different in floral designs for these sad occasions is the oval wreath, of which one side is made solidly of ferns and leaves and the other half as solidly a mass of flowers.

Nebraska Girls Have Queer Pets.

Two queer pet animals are owned by Misses Lillian F. and Agnes C. Myers, of Omaha, Neb. Miss Lillian has a white horned toad from California, which seems to understand what is said to it and obeys like a pet dog. Miss Agnes has a true wildcat, which is, nevertheless, tame. The pets make a strange combination, and his toadship takes many of his naps in the long hair of his big playmate. The animals occupy a massive cage together.

Confusion as to the choice of a blood purifier is unnecessary. There is but one best Sarsaparilla, and that is Ayer's. This important fact was recognized at the World's Fair, Chicago, 1893, being the only blood purifier admitted to be placed on exhibition.

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The Young Folks.

THE TWO WORDS.

One day a harsh word, rashly said,
Upon an evil journey sped,
And like a sharp and cruel dart
It pierced a fond and loving heart,
It turned a friend into a foe,
And everywhere brought pain and woe.

A kind word followed it one day,
Flew swiftly on its blessed way;
It healed the wound, it soothed the pain,
And friends of old were friends again;
It made the hate and anger cease,
And everywhere brought joy and peace.

But yet the harsh word left a trace
The kind word could not quite efface;
And though the heart its love regained,
It bore a scar that long remained;
Friends could forgive, but not forget,
Or lose the sense of keen regret.

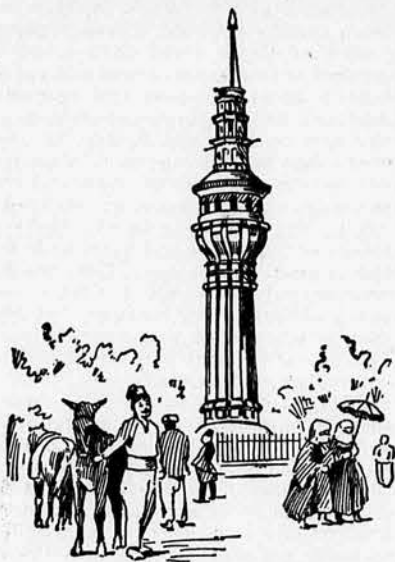
Oh, if we could but learn to know,
How swift and sure one word can go,
How would we weigh with utmost care
Each thought before it sought the air,
And only speak the words that move
Like white-winged messengers of love.
—Sunday-School Times.

THE PECULIAR TURK.

What He Does When a Fire Breaks Out
in His Neighborhood.

American boys and girls accustomed to the dash of fire horses through the streets, and the reaching of the burning house or shop in five or ten minutes, only a fair performance of our fire departments, will laugh to hear how the slow-going Turk manages the matter.

In Turkey's most important city, Constantinople, there are no electric fire signals to be rung at almost any street corner, but the fires are watched for from several fire towers that are built in various portions of the city. The one shown in the accompanying picture is in the old part of Constantinople, just inside the gate of Soula-manie, and is a historic one, for it is built on the site of the forum of Constantine the Great, from whose name, as many of you probably know, this beautiful city of the Bosphorus is named. Toward the top of this tall, graceful tower a rod or pole projects on each side; these are for the fire signals. On the top of the tower stands, day and night, a watchman, who looks all about on every side for the first sign of a fire. If he sees a suspicious smoke anywhere he at once hangs out on the rods a sort of ball-shaped basket or lantern,



TURKISH FIRE TOWER.

as it is called, one for each district, up to the one where the fire seems to be. The city was built on seven hills, and each hill is a district, so if the fire is in the third district three balls will hang on each side, that all may know where to run for the fire.

The street watchman, whose duty it is to keep his eye often on the tower, soon sees the signal, and if it is in his district he starts on a run to warn the firemen. He has a club, and as he runs he beats on the pavement with it, and cries at the top of his voice: "Yanghin var! Yanghin var!" "There is fire! There is fire!" The first to hear the noise and din are the dogs of the city, and the dogs of Constantinople ought to have a story all by themselves, for they are very prominent. There are ten thousand of them, and the visitors say that it seems as if every dog in the city turned out for every fire. It is certain that almost at once the watchman has a great crowd of dogs yelping and barking at his heels, and this commotion soon arouses the firemen. These are volunteers, not a regular company of trained

men as we have, and part of them run to where an old-fashioned hand engine is kept, and get it out and start for the fire with it, and another set of men grab their leather water bags, which they sling over their shoulders as they run, and go to the nearest public fountain to fill them with water. Then they, too, rush to the fire, the engine pipes are attached to the bags, the men begin to pump, and at last, when the fire has had a good half hour's start, some small streams of water are played on it, without, however, as you may guess, very much effect.

At night a colored light is used on the towers, its color showing the district where the fire is. As the districts are large and the firemen have no idea in what part of the district the fire may be, they sometimes race over the most of it, with dogs and people following, before they find the blaze; by that time, perhaps, a good part of the water has leaked out of the bags, which are kept in use when they are old and worn, and little good can be done. It is because their means of fighting fire are so slight and imperfect that the city is often visited by most serious fires, and this is why, too, the most dreadful sound in the streets, particularly at night, is the shrill "Yanghin var!" of the watchman. Many of the wealthier citizens keep on hand large heavy curtains, almost as thick as the Turkish rugs, and of great size, which they hang in front of their houses when a fire is near and seems threatening. This curtain is called kuzkeelim.—N. Y. Times.

THE DRUNKARD'S DOG.

He Saved His Master from Being Sent to the Prison.

The New York Times reports that Policeman Logan, of that city, saw a man lying intoxicated on the pavement, and went toward him, meaning to wake him. As he drew near, however, he saw a brindle bulldog standing beside the sleeper, and as the policeman leaned forward to shake the man the dog growled and showed his teeth. Logan stepped back for fear of being bitten. The drunkard's name was Collins.

"Hey, there!" said Logan. Collins woke up.

"Tell your dog to let me arrest you." Collins struggled to his feet, and said to the dog: "Come on, Bully, we're rested."

The dog "heeled" obediently, and the policeman took them to the Thirtieth street station-house. There was no reason why the pup should be locked up, but it was plain that he intended to stick to his drunken master as long as he could, and he was allowed to occupy the cell in which Collins spent the night.

The dog accompanied Collins when Logan took him down to Jefferson Market police court, and was close to him when Justice Hogan asked:

"Well, sir, what have you to say for yourself?"

"Talk to him, Bully," whispered Collins to the pup; and the pup jumped up on the bridge, where the justice could see him, sat up, held up his forepaws and whined.

Everybody in court was watching him.

"Are we sorry?" Collins asked him.

The pup whined loudly and more forlornly than before. He looked as if he would cry in another minute.

"Well, young man," said the justice, "I'll let you go this time on account of your dog. I don't think you deserve such faithfulness as he has shown. If I were a dog and had a drunken master, I would leave him. But I guess dogs are more faithful than men."

"Thank the judge, Bully," said Collins.

The dog stood up on his hind legs, gave one short, joyous yelp, and bounded out of the courtroom beside his master.

The Grumblers Retired in Haste.

An excursion party from Boston went to a rural part of the state, and in default of hotel accommodations some of the members were obliged to seek quarters in a farmhouse. Everything was neat and clean, and the meals were excellent, but there was a natural absence of some of the luxuries of city life. Two of the ladies of the party presently made the alarming discovery that there were no keys in the locks of their rooms. They waited on the farmer's wife to complain. She listened

quietly, and then said, with a smile: "We don't usually lock our doors, and there's no one here but you. But I suppose you know your own party best." The visitors did not insist upon the keys.

THE FUNNY PLATYPUS.

An Egg-Laying Mammal from the Wilds of Australia.

One of the oddest of the many queer and unique creatures that inhabit the antipodean wilds is an animal about the shape and size of the American



THE PLATYPUS.

raccoon. He is not a curiosity on account of his shape or size, or because he resembles the coon and lives in Australia, where all nature is topsy-turvy, but because of a remarkable habit the female of his species has of laying eggs and hatching them after the manner of birds. This queer egg-laying animal, the only creature of the kind on earth, so far as the zoologists know, is called a platypus. It inhabits the deep forests of the river bottoms of both Australia and New Zealand, and it is said, has many of the characteristics which distinguish the beaver tribe. The platypus is not a common animal even in its native haunts, and it is yearly becoming rare, because of the war which has been waged against it on account of the continuous dread of the harmless little creature, because its habits deviate so widely from those generally noted in fur-covered, four-footed creatures.

To remove the constipated habit, the only safe treatment is a course of Ayer's Pills, followed by a laxative diet. Most other cathartics do more harm than good, therefore leading physicians recommend Ayer's Pills, especially as a family physic.



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GEARHART'S FAMILY KNITTER.

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J. E. GEARHART, CLEARFIELD, PA.

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FOUNDED 1883.

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KANSAS FARMER CO., Topeka, Kas.

The Kansas State Horticultural Society will hold its next annual meeting at Lawrence, Kas., on Tuesday, Wednesday and Thursday, the 10th, 11th and 12th of December, 1895.

It is not the purpose of the Kansas Farmer to give a formal report of the detailed proceedings of the Irrigation Association, but it hopes to present as rapidly as possible the papers of chief interest.

Readers who are not especially interested in irrigation may find this number of the Kansas Farmer rather full of that subject. Well, this is the number just succeeding the important annual meeting, and, while irrigation is a fruitful subject, it is not likely that the near future will present so much for which immediate publication is imperative.

Any one desiring to subscribe for Kansas Farmer can also obtain an elegant magazine at small cost. Kansas Farmer and Cosmopolitan Magazine, both one year, for \$2. Kansas Farmer and Munsey's Magazine, for \$1.85. Any one not acquainted with these magazines can see what they are by calling at a news stand in any city in the United States. Kansas Farmer and Cincinnati Weekly Enquirer, both one year, \$1.25. Send all orders to this office.

The comparative showing of receipts and shipments of live stock for the months ending September 30, 1894, and September 30, 1895, at the Union stock yards, Chicago, shows cattle 282,886 for 1894 and 270,795 for 1895; calves, 19,129 for 1894 and 10,882 for 1895; hogs, 411,915 for 1894 and 448,284 for 1895; sheep, 267,409 for 1894 and 339,342 for 1895; horses, 7,677 for 1894 and 8,598 for 1895. In cattle there was a decrease of 12,091 and in calves 8,247. The increases were in hogs, 36,369; sheep, 71,833; in horses, 921, and in car-loads 226.

KANSAS CORN CROP.

Replying to inquiries, Secretary Coburn, of the State Board of Agriculture, says:

"During the past two months or more there have appeared in the various newspapers, East and West, statements purporting to give the present corn crop of Kansas as anywhere from 300,000,000 to 400,000,000 bushels, and in numerous instances these statements have been made as emanating from the office of the State Board of Agriculture. As a fact, however, this board has made no estimates and does not yet know, nor does anybody else know what the yield will be. It is a matter that cannot be arrived at until a considerable portion of the crop is husked.

"At the proper time, in the near future, we shall be at much pains to learn from every neighborhood and make public the actual output; until then any figures given will be simply random guessing, which is no part of our work.

"Kansas has a tremendous crop—enough and millions for the cornless elsewhere, but personally, in view of the weather conditions of the past six weeks, I regard the talk of 400,000,000, or even 300,000,000 bushels, as uncalled for and harmful buncombe."

THE GARDEN CITY FAIR.

The Garden City fair is in some respects unique, and it is the great event of the season in western Kansas. Its exhibitions are not more varied, nor are they larger in volume or numbers, than at many fairs which command far less attention. But the Garden City exhibition marks the progress of the new development in agriculture, at least a development new to most of the people who are interested in it. Western Kansas makes but little progress without irrigation. Indeed, the impartial observer readily concludes that the contrast between the certainty of success under irrigation and the almost certainty of failure under dry farming in the regions here represented, makes the latter unworthy of consideration except to condemn, and the former worthy of the closest study of its methods and analysis of its results. The Garden City fair is, therefore, in some sense an exposition of irrigation. And while the horse race attracts the amusement-loving crowd, and is provided for that purpose, as well as to swell the gate receipts, the chief interest in this exposition is drawn out by the appliances for irrigation and the fruits, vegetables and grains produced by it.

The exhibition of irrigation appliances this year was excellent. On entering the gate, the visitor first encountered the exhibit of the Kansas City Hay Press Co., and that of the Weber Gasoline Engine Co. The Hay Press Co. had, to the surprise of everybody, no hay press there to show, but had three centrifugal pumps, one of which was estimated to be throwing 2,000 gallons of water per minute, lifting it from a lake, and the other, a smaller one, an estimated amount of 300 gallons per minute, from a perforated point sunk into the sand. One Weber gasoline engine of twelve horsepower was driving both of these pumps, and was evidently working considerably below its capacity.

The next exhibit was that of the Perkins Windmill Co., of Mishawaka, Ind. This consisted of one eight-foot windmill on steel tower, working an eight by six inch pump, and a twelve-foot windmill, also on steel tower, working a ten by eleven inch pump. These mills are provided with graphite bearings, and are never oiled, so that there is no possibility of grease or machine oil leaving its discomforting and disfiguring evidence upon the mill and tower and fastidious observer.

The third exhibit reached by the visitor was that of the Crane Company, of Kansas City, consisting of one twelve-foot Crane Irrigator windmill, forty-foot steel tower, with fifty-inch Frizell tubular pump with twenty-inch stroke, and said to lift seventy-two gallons of water per minute in an eighteen-mile wind. This exhibit also showed a two horse-power gasoline engine, which seemed to be taking care of itself, and was operating an eight-inch Frizell irrigation pump, and said to be lifting 120 gallons of water per minute. This company had also on exhibition a twenty-inch Worthington wrecking pump, with steam cylinder attached, and said to be lifting 1,200 gallons of water per minute, also a full line of irrigation and tubular pump cylinders. Another exhibit of the Crane Company was placed in the center of the race track, and consisted of a twelve-foot Irrigator windmill, working a ten-inch Frizell irrigation pump, and said to be lifting 160 gallons of water per minute in an eighteen-mile wind. It drew its water from a driven well, and delivered it into a model reservoir, from which it was drawn and applied to a model garden and ornamental grounds, showing a practical method of irrigation.

The next exhibit encountered was that of R. G. Stone, of Garden City, manufacturer of the Stone pump. This exhibit consisted of a number of pumps and pump cylinders, including a deep well pump. Mr. Stone also exhibited a twelve-foot Airmotor windmill on a thirty-foot wood tower, and a twelve-foot Airmotor on stub tower. The first of these was operating his 12x12 Stone pump.

T. C. Mitchell, of Garden City, had on exhibition a twelve-foot Ideal Irrigator windmill, operating a 10x12 Stone pump.

Next was the exhibit of the Witte Gasoline Engine Co., of Kansas City, driving a No. 6 Gould centrifugal pump, said to be discharging 2,000 gallons per minute, and also operating by means of a pumping jack and walking beam a ten-inch home-made pump made by Mr. Van Voorhis, of Ford City.

Near by was the display of the U. S. Water & Steam Supply Co., of Kansas

City. This consisted of a sixteen-foot Halladay pumping windmill on a thirty-foot steel tower, operating an eight-inch double-acting Curtis pump with ten-inch stroke. In a strong wind this mill is said to give 110 strokes per minute, and to deliver 215 gallons per minute. This company had also on exhibition a twelve-foot Gem steel wind engine on forty-foot steel tower, operating a 10x12 irrigating pump, and said to be delivering 120 gallons per minute. Also an eight-foot Gem steel wind engine on forty-foot steel tower, operating a 6x8 U. S. irrigating pump, and said to be delivering thirty-one gallons per minute. This company also had on exhibition a Gould centrifugal pump, before mentioned as operated by the Witte gasoline engine. Also a full line of U. S. irrigating pump cylinders.

Near by stood the exhibit of the Olivet Manufacturing Co., of Wichita, consisting of one Governor windmill and pump, and a model of a centrifugal pump of entirely new design and construction, which for simplicity surpassed anything heretofore attempted in the line of centrifugal pumps.

A small windmill, using a pinion and yoke instead of crank, was exhibited by Mr. Hoag, of Newton.

The exhibit which attracted more attention than any of the others and perhaps received the warmest commendation, especially from the farmers who had been unable to devise ways and means or to find the money for purchasing any of the high-grade machines of the other exhibits, was that of S. S. Taggart, of Garden City. It consisted of a home-made windmill, and home-made water elevator. The entire plant was constructed by Mr. Taggart with the assistance of his wife and her sewing machine, and the total cash outlay for material for the whole appliance complete was \$12. This windmill is constructed to utilize the north and the south wind, but does not turn to catch the east and west winds. Mr. Taggart has promised a full description of the mill for the Kansas Farmer, at a later day, and we hope also to be able to present an illustration of the apparatus. It presents a picture strongly reminding one of the illustrations of ancient Egypt. But when the wind was blowing strong from the south it lifted as much water as any mill on the grounds.

The last display in this line was that of B. H. Van Voorhis, of Ford City, a cynical old frontiersman, who has named his pump the "Infidel," and is said to have a windmill of his own construction on his premises, which he calls the "Devil." Mr. Van Voorhis' pump was driven by a steam engine, and was making ninety-five strokes per minute, and could probably make more without injury. This pump is a curiosity in its way. It consists of an oil barrel with a valve in the bottom, through the top of which works a hollow cylinder, with a valve on top. The bottom of the barrel is, of course, connected with the suction pipes, and the hollow cylinder is connected with the plunger-rod, and has suitable packing around it where it enters the top of the barrel. A sheet-iron pipe fixed to the top of the barrel, and surrounding the plunger-rod, serves for a delivery pipe and completes the machine.

The machinery exhibit, outside of that directly used for irrigation, was meager and consisted almost entirely of Perine subsoil plows, a plow almost identical with the Perine, made by the "Inter-State Exchange," of Kansas City, and the "Secretary," manufactured and exhibited by the John Deere Plow Co. The Secretary marks an advance in plow construction and combines in admirable form a rotary turning plow and subsoiler.

The display of the results of irrigation farming was entirely creditable but was less complete and extensive than was expected by those who had visited the marvelous fruit and vegetable farms in the vicinity. It was learned that many who had exhibits ready were prevented from bringing them by the rain, which set in early in the week and continued almost to the close of the fair. Notice can here be given to only a few of the many displays of products.

Near the entrance to the pavilion was a fine display, presided over by A. Bartlett and his wife. In this exhibit were thirty-five entries of fruits, on which the judges placed twenty-eight blue ribbons; six entries of vegetables and three blue ribbons, and two monster melons. The apples had the rich bloom which characterizes irrigated apples; German prunes were there in great perfection, both in the fresh and in the dried state; several kinds of plums; grapes in great variety and of superior excellence—indeed, the fruits of the

temperate zone were largely in evidence. In the exhibit of W. A. Garlow, which consisted chiefly of vegetables, were thirteen onions whose weight was twenty-one and one-half pounds. Lee Doty had a fine exhibit, in which canned fruits were predominant. It is suspected that the industry of Mrs. Doty is to be credited with this. The suggestion was made that fruits and vegetables can be produced with such certainty and in such abundance under irrigations that a canning factory ought to pay well at Garden City, was well made. Cucumbers grow to such perfection that some one out of employment might easily have a portion of the money which this county annually sends to England for pickles.

An interesting exhibit was that of R. A. Hopper & Son, who showed honey and bees. This season gave only about a half crop of honey, yet these exhibitors have sold 12,000 pounds from their 300 stands. Most of the honey is sold in Chicago and Kansas City, and nets about 12½ cents per pound at Garden City.

Morton, the southwest corner county of the State, had an interesting display in charge of Sam Worthington, and got the blue ribbon for the largest display outside of Finney county.

The Airmotor offered for the best half-bushel of potatoes and the blue ribbon for the best display of potatoes were both taken by John Baker, of Garden City. The variety was Early Rose, and the potatoes were so much alike that they might have been cast in the same mold.

Oil painting is evidently a fad at Garden City, but space forbids that mention in detail be made of the large exhibit, which occupied the entire alfalfa palace.

Stock is not a direct product of irrigation, and yet it will doubtless be a more prominent part of future exhibitions than of this one. Some good animals were shown, but it is hoped that a fuller display will be made next year and that the Kansas Farmer will have one of its live stock men on the grounds to properly present it.

This fair is in energetic and capable hands. It pays all premiums promptly at 100 cents for every dollar awarded, and while the weather this season was not favorable for a large attendance, there is money left in the treasury.

KANSAS IRRIGATION ASSOCIATION.

The fourth annual convention of this association was held at Garden City, October 1 and 2. When, a little more than three years ago, a conference was called at Great Bend to consider the subject of irrigation, it was not realized that a great and powerful movement, destined to have immense influence on the development and prosperity of the State, had been initiated. The purposes of the prime movers of the preliminary meeting were perhaps not defined in detail, but it is safe to say that considerable departure has been made from the original conception. That the government of the United States must eventually do a very large part of what ever was proposed was unquestionably the central thought at that time. Great enterprises, immense systems involving, possibly, the turning of the course of the Missouri river; the appropriation and expenditure of many millions, seemed to the enthusiasts who started the movement to be essential to a general system of irrigation. How much of hope of having a part in the handling of these millions entered into the initial enthusiasm will never be known. But if the hope for place and profit entered into the calculations of the original promoters of the irrigation development, they were not different from the usual promoters of beneficent movements, for it is doubtless true that great movements almost universally receive the services which give them vitality chiefly on account of the hope of selfish gain on the part of their promoters.

But, while the interest created by the Irrigation Association undoubtedly made possible the Kansas Irrigation Commissioner law, the chief results of its existence have been, and doubtless will be to a far greater extent in the future, the promotion of independent individual irrigation. The meetings of the association have each shown more clearly than its predecessor that the individual has here his opportunity, and the experiences of practical irrigators have demonstrated that profit is to be realized by each individual who, with fair intelligence, makes use of this opportunity. This fourth meeting was held at the home of the originators of individual pumping plants on the American plains, and the fact that the Arkansas river, near by, was little but a winding band of moist sand had no

influence to diminish confidence in the water supply or to lessen the estimates of the area for which the supply of water is at hand.

Instead of asking either the United States or the State of Kansas to enter upon the work of developing a system of irrigation, instead of petitioning any power or corporation to construct canals, the desire of the association was only that the irrigators might be furnished such information as will enable them to proceed intelligently with the development of individual systems from the widely distributed resources available. This demand is briefly stated in the following resolution, which was unanimously adopted:

Resolved, That we ask the Congress of the United States to make such appropriations of money as will provide speedily for such survey as shall determine the amount, distribution and limitations of the waters of the great plains which may be made available for irrigation, especial reference being had to the investigation of sub-surface supplies and to means of retaining for the use of agriculture the wasteful run-off and evaporation which occurs immediately after heavy rainfalls.

The reasonableness of this demand will not be questioned. In the nature of the case, the individual cannot make this investigation for himself. It must be comprehensive, and, while the expense would necessarily far exceed the financial ability of the man of ordinary means, the advantages of such survey, however made, cannot but be common property. The State is indeed contributing to such work, and may well be asked to do more in the future than it has done in the past. The United States has a well-begun survey only partially completed and of little use in its present condition. This survey should be pushed to early completion and should be extended by such work upon details as shall, together with the work of the State, furnish a complete key to a knowledge of the waters available.

COMBINATIONS OF PUMPS AND WINDMILLS.

The question of the most appropriate size of pump to use with a given size of windmill, is one which has to be met by every user who desires to get the maximum of work from his plant. Manufacturers are far from an agreement on this point. Something may be learned, however, from the various combinations used by the exhibitors at the Garden City fair. The lift here was seven to ten feet, and it is to be presumed that each manufacturer used what, in his judgment, was the best combination for this lift. Where the distance from the water surface to the point of delivery is greater, it is to be presumed that smaller pumps would be used. The windmills exhibited at Garden City were all, except one, back-gearing, but how much they were back-gearing is, for most of them, unknown to the writer. The difference in back-gearing may account for many of the differences in the combinations used. The following table shows the sizes of the mills, the diameters of the cylinders, the lengths of stroke, the displacements of the pistons and the approximate amount of water delivered per stroke:

| Name of windmill. | Diameter of mill, in feet. | Diameter of pump cylinder, in inches. | Length of stroke, in inches. | Displacement per stroke, in gallons. | Working capacity per stroke, in gallons. |
|--------------------------|----------------------------|---------------------------------------|------------------------------|--------------------------------------|------------------------------------------|
| Airmotor | 12 | 11 1/2 | 12 | 5.40 | 4.86 |
| Crane Irrigator | 12 | 4 1/2 | 20 | 1.53 | 1.33 |
| Crane Irrigator | 12 | 9 1/2 | 12 | 3.87 | 3.43 |
| Gem | 8 | 5 1/2 | 8 | .90 | .81 |
| Gem | 12 | 9 1/2 | 12 | 3.87 | 3.43 |
| Halladay Standard* | 16 | 8 | 10 | 2.17 | 1.95 |
| Ideal Irrigator* | 12 | 9 1/2 | 12 | 3.68 | 3.31 |
| Perkins | 8 | 8 | 5 1/2 | 1.25 | 1.13 |
| Perkins | 12 | 12 | 11 | 5.38 | 4.84 |

*Double acting. This pump makes two deliveries for each revolution of the mill, which is not back-gearing.

**Ten per cent. less than displacement. This reduction is probably too great where the stroke is very long or when the valves are closed by springs.

"Shoppell's Modern Houses," is a finely illustrated quarterly, which will be found both interesting and useful to all who contemplate building or remodeling houses or desire to add modern conveniences. It is published by the Co-operative Building Plan Association, New York.

The officers of the Kansas Irrigation Association underwent a complete change at the fourth annual meeting. The new officers are: President, Capt. J. H. Churchill, of Dodge City; Vice President, Judge W. E. Hutchinson, of Ulysses; Secretary, Judge H. N. Lester, of Lakin; Treasurer, Geo. W. Watson, of Larned.

THE WICHITA STATE FAIR.

Last week closed the second annual Kansas State fair, held by the Wichita association. Rainy weather prevented a successful attendance of visitors on the principal days of the fair, however. Friday was the only big day of the week. The association feel somewhat discouraged but nervily propose to pay out and go ahead and continue to hold the principal or State fair of Kansas. The last three years have been very discouraging times for fair associations in Kansas, and therefore the enterprising Wichita association deserves considerable credit for attempting the principal fair of the State.

As a matter of fact, there has not been a real representative, State fair for Kansas for several years, and while Kansas has the men and the material—the exhibits and the exhibitors—with which to hold a state fair unsurpassed by any agricultural State in the Union, yet the lamentable fact remains that our alleged Kansas State fair for several years past has simply been a misnomer—a State fair in name and not in fact. When we compare our alleged State fair with those of Texas, Nebraska, Iowa, Missouri, Minnesota or Illinois, it is simply odious and humiliating to have the grand old State of Kansas occupy the rear rank, the very tail end of the procession of Western State fairs. These observations are not made with a view of finding fault with either the Topeka or Wichita associations, but merely to call the attention of public-spirited citizens of the State to what has been passing current during recent years as a State institution. The Topeka association drifted into a regular district fair and the Wichita attempt is in fact only a first-class district fair. It is true that the fair just closed was highly creditable to the Wichita association, and was all that any one could reasonably expect. The equipment and conveniences for exhibitors will not near compare with Topeka, but if the same management is able to continue it will speedily make decided improvements in this respect. Exhibitors present understood the situation and expressed much good will for the efforts of the management to care for them as well as they did. The Wichita association deserve congratulations for having gotten up the biggest and best fair held in Kansas for the year 1895, though it did not measure up to the limit of a representative State fair.

The big features of the fair were the speed attractions, the live stock exhibits and the displays of poultry, of farm machinery and corn.

A unique and highly interesting and instructive feature of the fair was the irrigating ditch, filled with clear running water from underflow water of the great Arkansas valley basin. The firm of Fairbanks, Morse & Co., of Kansas City, Mo., put in an irrigation outfit of ten horse-power gasoline engine and one of their celebrated irrigation pumps, with which they pumped about 500 gallons per minute into the ditch, which ran across a portion of the grounds. This exhibit was an object-lesson in irrigation that attracted the interested attention of every visitor to the fair. Mr. T. E. Bower, the erecting engineer, was kept busy explaining machinery and the practical demonstration of the inexhaustible supply of the underflow.

Shawnee county was well represented in the live stock department by the exhibits of Peter Sim, Wakarusa, with ten Short-horns, headed by Royalty Bates. Also Mr. McMillan, fine show of German Coach, Percheron and Clydesdale horses, which carried off all the best premiums in the classes which he showed.

The live stock show was highly creditable, both as to numbers and the quality of the stock; especially was this the case with the swine and cattle.

The Wichita Daily Eagle had the following to say of the cattle display: "At no time in the history of Kansas has there been an exhibit equal to that displayed at the State fair. Not only is this class represented by the fine colored Jerseys, but the great beef cattle, represented by the Herefords and Short-horns, are there in great numbers, while the great milk-producing breeds are represented by the spotted Holsteins. The exhibition must be seen, as no description can do the showing justice. There is the calf of two days of age, and the mammoth bull which tips the beam at 2,980 pounds at the age of six years, while the two-year-old comes to the front with a representative weighing 2,200 pounds."

EXHIBITS AND AWARDS.

Short-horns were shown by J. C. Hyde, Sunny Dale, Kas.; J. F. Stodder,

Burden, Kas.; Irwin & Duncan, Wichita; Peter Sim, Wakarusa, Kas., and W. P. Harned, Bunceton, Mo. The first prize on aged stock and herd were won by Harned, the others were divided among the exhibitors.

The Hereford cattle show was the "hot" rings of the live stock exhibit. Sunny Slope farm, Emporia, Kas., had the finest young herd ever shown in the West. This herd carried off the first premium for bull 2 years, yearling bull, bull calf, two-year-old cow, yearling heifer and heifer calf; also the \$25 herd prize; also four grand sweepstakes premiums, all breeds competing, for best bull any age, best cow any age, best young herd and bull and four of his get. Makin Bros., Florence, Kas., had fourteen head of grandly-bred and representative Herefords, but they were not in as fine a show condition as is usual for this herd, probably owing to the fact that they were not making a regular circuit of the fairs this season, therefore second premiums were the only ribbons secured. West & Duncan, of Windsor, Ill., had a fine string of show Herefords and succeeded in taking first prize on aged cattle, second premium on herd, and dividing second premiums with Makin Bros.

The show of dairy cattle was small, consisting of twelve head of Jerseys, owned by R. Oliver, Dearborn, Mo., and six Jerseys, by W. H. Miller, Bayneville, Kas., and two Holstein-Friesian bull calves from Sunny Slope farm. Mr. Oliver captured the dairy sweepstakes prizes, and divided about equally the first and second premiums in the Jersey classes.

The sheep department was represented by thirteen Cotswolds shown by James Walton, Newton, Kas., and an exhibit of eleven Cotswolds, ten Shropshires, thirteen Merinos and one Cashmere (hog cholera eradicator) goat, shown by H. H. Hayne & Son, Walton, Kas., who made a clean sweep of all premiums, except in the Cotswold classes, which were divided with Mr. Walton.

The swine department constituted the leading display of live stock and a better class of good quality stock has seldom been shown in the West. The exhibits were up to date and a premium won in any class meant something, so warm was the competition. In view of the attendance, the pig sales were remarkable, nearly every exhibitor reporting good sales. Dawson Bros., of Nebraska, claimed to have sold fifty head by Saturday. The Kansas breeders held up prices much better than their Nebraska competitor.

Swine exhibits were made as follows: P. A. Pearson, Kinsley, twenty-five Poland-Chinas; Sunny Slope farm, H. L. Leibfried, manager, Emporia, thirty-one Poland-Chinas and thirteen Berkshires; R. S. Cook, Wichita, forty-three Poland-Chinas; W. H. Wren, Marlon, Kas., sixteen Poland-Chinas (not entered for competition); W. S. Sims & Son, Wichita, eight Chester Whites; R. Blodgett & Sons, Beatrice, Neb., Chester Whites; W. A. Bailey, Kingman, a few Poland-Chinas; L. C. Matson, Kechi, five Poland-Chinas; Dawson Bros., Endicott, Neb., sixty Poland-Chinas; Irwin & Duncan, Wichita, nine Poland-Chinas; Wm. Maguire, Haven, Kas., eleven Poland-Chinas. The foregoing clearly shows that this swine display was evidently a Poland-China crowd. The principal Berkshire premiums were taken by Sunny Slope farm. The same was true with R. Blodgett & Sons, in the Chester White classes. However in the Poland-China classes there was warm competition. R. S. Cook won first on Poland-China yearling sow, first on sow under 1 year and first on all breeders' ring classes, consisting of sow with litter, boar and his get, best herd and best boar and three sows, also the sweepstakes sow any age; Irwin & Duncan won first on best sow 2 years and over; Dawson Bros. won first on aged boar, first on 6 months boar and sweepstakes boar any age; P. A. Pearson won first on yearling boar; and Sunny Slope farm won first on boar under 6 months, first on sow under 6 months, and second premiums were divided between R. S. Cook and Sunny Slope farm.

The races were, of course, a leading feature of the fair, and all classes were well filled with speedy horses, and had the weather and the condition of the track permitted, it would have been one of the best race meetings ever held in the State.

What man in his right senses, that has wherewithal to live free, would make himself a slave for superfluities? What does that man want who has enough? Or what is he the better for abundance that can never be satisfied?—L'Estrange.

OLD-FASHIONED AGUE

Compared With Chronic Malaria.

The regular, old-time, back-woods fever and ague, also called chills and fever, was had enough in its day, but a far worse disease to bear, somewhat like it, is known as chronic malaria. The regular fever and ague would produce a distinct chill, followed by fever and sweating. Then the victim would have a rest of one, two or three days to gain strength and regain courage.

But not so with chronic malaria. Every day, morning, noon and night, chronic malaria will tease and plague its victim with miserable, indescribable creeping rigors; nasty, exasperating cold sweats, bitter taste, coated tongue, sallow, dry skin, loss of appetite, confusion of senses, heavy stupid listlessness, and a myriad of similar symptoms as infernal as they are persistent. Not a day's intermission nor an hour's cessation. Work becomes a wearisome worry, study sickening and senseless, and play a prosy impossibility.

The quinine treatment for chronic malaria is not of the least possible use. It will cure the majority of cases of acute malaria, but not the chronic. In fact, quinine seems to aggravate rather than relieve. Unless a thorough course of Pe-ru-na is taken the patient will seek in vain for relief. The effect of Pe-ru-na is pleasant, positive and permanent.

Send for a free book on malaria, published by The Pe-ru-na Drug Manufacturing Company, of Columbus, Ohio.

Kansas Swine Breeders.

The annual session of the Kansas Swine Breeders' Association was held in the Council chamber of the City hall, Wichita, Thursday evening, October 3, 1895. Geo. W. Berry, President, in the chair, and Willis E. Gresham, Secretary, at the desk. Over thirty members were in attendance.

The "Object of This Association," was the title of the President's paper, and it was of interest to every breeder. Next came "Thoughts and Observations," by D. Trott, of Abilene. This was followed by a good talk from H. L. Leibfried, manager of Sunny Slope farm, on "Preserving Health of Herd." R. S. Cook, of Wichita, proprietor of the Champion herd, came next, with an address entitled, "Are Show Animals Successful Breeders?" His excellent remarks were followed by a spicy talk from Brother Hubbard, of Rome, on "Selling Stock on Order." The Secretary then presented a paper on "Line Breeding," which was well received. Next came a paper by Prof. C. C. Georgeson, of the State Agricultural college, at Manhattan, and entitled, "Balanced Rations for Breeding Swine." All of the foregoing papers and addresses were exceedingly well prepared and created much discussion, of value to every one interested in swine husbandry.

The following officers were elected for the ensuing year: President, R. S. Cook, of Wichita. Vice Presidents, H. L. Leibfried, of Emporia; D. Trott, of Abilene; J. S. Magers, of Arcadia; Eli Zimmerman, of Hiawatha; P. A. Pearson, of Kinsley. Secretary, O. P. Updegraff, of Topeka.

A vote of thanks was extended to the retiring officers, for efficient services rendered. Same to the Mayor, for use of City Council chamber. Meeting then adjourned to meet in Topeka, in semi-annual session at call of the Secretary.

Poultry Business.

Every farmer should be a poultryman, and every poultryman should know how to breed successfully. The expert in the poultry business is a very valuable person. Jno. Bauscher, Jr., poultryman and seedsman, Freeport, Ill., sends out a book for the nominal cost of 10 cents, which describes the various breeds, and gives much other valuable information concerning poultry-raising. Mr. Bauscher's stock this year is in very excellent shape—he states better than ever before.

Publishers' Paragraphs.

Any one troubled with rheumatism will do well to write Prof. F. I. Abbott, 334 Dearborn street, Chicago, Ill., for free treatise and testimonials. Notice his advertisement elsewhere in this issue.

WEDDING BELLS.—Not long ago there seems to have been a wedding in doll-dom. The J. C. Ayer Co., Lowell Mass., for the small sum of twelve cents, in stamps, send a beautiful doll-bride, with a most complete and fashionable trousseau. Every little girl wishes to know of this latest event in doll society, and wants to add to her doll family this latest and prettiest of paper dolls.

Politeness has been defined to be artificial good nature; but we may affirm, with much greater propriety, that good nature is natural politeness.—Stanislaus.

Horticulture.

PORCH ADORNMENTS.

By B. B. SMYTH.

Passing along one of the principal residence streets in the southwest part of Topeka, I became interested in the great number and variety of vines climbing the porches and sides of houses. There seemed to be scarcely two alike. Passing on down into the city the same dissimilarity was noticeable, but the vines were different. Everybody seemed to be trying to get something different from everybody else, and with a good show of success. And they were all very beautiful. There were no ugly vines. The plainest of all in appearance was the common hop; but even that has handsomely-formed leaves, and in the fall very interesting pale green scale-fruits hanging down in plain view. These were all so interesting and instructive I retraced my steps another day and looked around a little more to see where each particular kind grows. And the following list is what I saw:

ON WALLS.

1. *Lonicera sempervirens* (trumpet honeysuckle).—633 Topeka avenue, and many other places. Not self-supporting; needs training.
2. *Ampelopsis quinquefolia* (Virginia creeper).—Capt. Wintrose's, Tenth and Harrison; H. P. Dillon's, 919 Harrison; Bethany college; Methodist church, etc. Climbing by suckers or modified tendrils when young; by sucking rootlets when old. The difference between suckers and sucking rootlets is this: Suckers on the ampelopsis are disks which form on the tips of the tendrils, which grow opposite every two leaves out of three, invariably; and they form only when the vine grows against a flat surface and the tendrils find nothing to wind themselves about. Sucking rootlets come from any part of the dark side of an old vine, and are long enough to reach the tree or wall against which the vine rests; as the rootlets become affixed to the object against which the vine rests, they shorten, drawing the vine up closer. These rootlets are quite numerous, often less than an eighth of an inch apart; and altogether they hold the vine very firmly. The tendrils are sufficient for the light young branches.
3. *Ampelopsis veitchii* (Japan ivy).—Joab Mulvane's, Twelfth and Topeka avenue; Presbyterian church; Rock Island depot, etc. Climbing by beautifully modified sucking tendrils, more regular than *A. quinquefolia*.
4. *Rhus radicans* (climbing ivy).—Geo. M. Noble's, 915 Harrison (on a tree in front yard). Not poisonous and a vigorous grower.
4. *Rhus radicans* (climbing ivy, poison ivy).—Wild. Climbs by sucking rootlets, as does the variety at Mr. Noble's. This plant is poisonous to about one person in five hundred; dangerously poisonous to perhaps one person in ten thousand. To be poisoned by it it is not necessary to touch it. It is said a susceptible person may be poisoned when the plant is in bloom though he approach no nearer than twenty feet, and may not see the plant at all. It is not poisonous when not in bloom, though the white berries are never edible. Neither are the dark blue berries of the Virginia creeper, and nobody says that plant is poisonous. The climbing ivy or poison ivy is quite frequent about our city, around the State house yard and elsewhere; and many persons pass and re-pass these plants every day, yet cases of poisoning are extremely rare. The writer handles it with perfect impunity in all seasons and in all kinds of weather; has known the plant from early boyhood; has made whistles of the young vines, bitten and blew on them, yet has never suffered in the slightest degree from poisoning by it, but has known those who were quite severely poisoned by it.
5. *Hedera helix* (English ivy).—W. D. Gossett's, 1015 Van Buren street; 1001 Taylor street, etc. Climbs by sucking rootlets, but not self-supporting; must be trained.

ON TRELLISES—CLIMBING BY LEANING.

6. *Clematis flammula* (sweet clematis).—Geo. D. Hale's, Tenth and Van Buren, and other places.
7. *Clematis vitalba* (leather bell).—Mrs. W. D. Gilmore's (C. J. Brown's), 1257 Topeka avenue. This is a rare form, though the wild form is frequently seen about the city.
8. *Clematis virginiana* (virgin's bower).—Joab Mulvane's, 1133 Topeka avenue; G. W. Crane's, Ninth and Harrison, and elsewhere.
9. *Clematis jackmannii* (large purple clematis).—T. E. Bowman's, Tenth and

- Van Buren, and numerous other places.
10. *Clematis jackmannii* alba (large white clematis).—Mrs. W. J. Healy's, 1000 Topeka avenue.
11. *Adiantum ciliatum* (Allegheny vine).—Mrs. E. Christman's, 720 Harrison street.
12. *Akebia quinata*.—Kansas Medical college, Twelfth street, near Polk.
13. *Pelargonium peltatum* (ivy-leaved geranium).—Mrs. J. P. Davis', 1034 Topeka avenue. Climbing a trellis from a pot set on the porch.
14. *Rosa setigera*, Prairie Queen, and other climbing roses.—Mrs. A. A. Hurd's, 1134 Tyler; Mrs. G. W. Grane's, 1133 Harrison, and many other places.
15. *Tecoma radicans* (trumpet creeper).—W. T. Crosby's, 905 Topeka avenue; A. H. Bates', 1251 Western avenue, and numerous places.
16. *Solanum jasminoides* (matrimony vine).—A. F. Horner's, Ninth and Tyler. A very fine one, covering a large trellis. Also other places.
17. *Lygodium scandens* (the only climbing fern).—Mrs. J. W. Magill's, 1253 Clay. Not old enough to climb, but worthy of notice.

CLIMBING BY TENDRILS.

2. *Ampelopsis quinquefolia* (Virginia creeper).—H. H. Mills', 1115 Polk, and many places on trellises. Does not develop suckers, but curls its tendrils, when growing on a trellis.
18. *Vitis cordifolia* (wild grape).—A vine at Homer Boughton's, 1106 Topeka avenue, two years old from the ground, covers 240 square feet of trellis and had nearly 6,000 clusters of blossoms on it last spring. It is a male plant (a somewhat rare thing among grapes) and was cut to the ground in April, 1893, together with an old cherry tree upon which it had been growing. It is now a thing of beauty.
19. *Vitis vinifera* (grape, several varieties).—E. M. Shelden's, 1025 Taylor, and numerous places.
20. *Cardiospermum halicacabum* (balloon vine).—Mrs. Gault's, 1012 Polk street.
21. *Lathyrus odoratus* (sweet peas, many varieties).—Numerous places.
22. *Passiflora incarnata* (passion flower).—Mrs. Flagler's, 1011 Topeka avenue, etc.
23. *Passiflora cerulea* (passion flower).—Major Downing's, 1100 Topeka avenue; F. E. Wear's, 1269 Topeka avenue, and elsewhere.
24. *Cobaea scandens* (climbing fox-glove).—Mrs. W. D. Gilmore's, 1257 Topeka avenue.
25. *Momordica balsamina* (balsam apple, balsam pear).—Mrs. Kingsley's, 1254 Topeka avenue, and other places.
26. *Cucumis acutangulus* (dishrag gourd).—Mrs. G. N. Elliott's, 1107 Topeka avenue. This is unique.
27. *Sicyos angulatus* (bur cucumber).—This is declared to be poisonous to some, even to look at when in bloom.
28. *Smilax herbacea* (carrion flower).—Geo. W. Reed's, 1133 Harrison. A very handsome plant.
29. *Smilax rotundifolia* (greenbrier).—W. H. Edwards', 1033 Van Buren.

CLIMBING BY TWINING.

30. *Tropaeolum majus* (climbing nasturtium).—Mrs. A. H. Horton's, 909 Harrison; 809 West Tenth; 811 Topeka avenue, and other places.
31. *Tropaeolum peregrinum* (canary flower).—Location forgotten.
32. *Celastrus scandens* (climbing bittersweet).—Dr. Wm. Smith's, 510 West Tenth street. Beautiful, with its scarlet berries and orange-colored pods hanging on in the fall.
34. *Phaseolus multiflorus* (scarlet runner).—Several places.
35. *Dolichos lablab* (Egyptian bean, hyacinth bean).—Mrs. Magill's, 1253 Clay, and other places.
36. *Wistaria sinensis* (wistaria).—Col. A. B. Jettmore's, 931 Harrison, and many other places.
37. *Lonicera sullivanii* (coral honeysuckle).—Mrs. Healy's, 1000 Topeka avenue, and other places.
38. *Lonicera grata* (sweet honeysuckle).—Mrs. H. Armstrong's, 1009 Topeka avenue, and many other places.
39. *Lonicera caprifolium* (common honeysuckle).—T. E. Bowman's, Tenth and Van Buren, and many places.
40. *Lonicera flava* (yellow honeysuckle).—Judge John Martin's, Eighth and Harrison, and other places.
1. *Lonicera sempervirens* (trumpet honeysuckle).—1107 Polk street, and many other places.
41. *Lonicera variegata* (golden-leaved honeysuckle).—Mrs. E. A. Calaway's, 1276 Tyler street.
42. *Lonicera japonica* (Japan honeysuckle).—Ed. A. Austin's, King and Fillmore, and other places.
43. *Lonicera halliana* (Hall's Japan honeysuckle).—At the writer's, Ninth and Harrison, and other places.
44. *Lonicera* — ("custard" honey-

suckle).—Mrs. Gilmore's, 1257 Topeka avenue.

45. *Ipomoea bona-nox*; *I. Mexicana*; *I. noctiflora*, etc. (moonflowers).—Edward Wilder's, 1021 Harrison, and numerous other places.
46. *Ipomoea batatas* (sweet potato).—Occasionally seen cultivated as a porch climber. Interesting as such.
47. *Ipomoea purpurea* (purple morning-glory, in many colors).—Numerous places, largely self-sown.
48. *Ipomoea hederacea* (blue morning-glory, in various shades of blue and white).—Different places, mostly self-sown.
49. *Ipomoea coccinea* (scarlet cypress vine).—W. W. Manspeaker's, 1001 Harrison; also self-sown at corner Van Buren and Huntoon, and different places in M. & D.'s addition.
50. *Ipomoea quamoclit* (cypress vine, white and crimson).—Rev. L. Blakesley's, Eighth and Polk; 513 West Ninth, and many other places.
51. *Convolvulus sepium* (white creeper or evening beauty).—At the writer's, Ninth and Harrison. Perennial, climbing shrubs and fences, various places. Too vigorous to be desirable.
52. *Convolvulus americana* (double creeper).—934 Kansas avenue. Perennial.
53. *Convolvulus arvensis*.—Washburn college. Perennial; wild; slightly inclined to climb.
54. *Polygonum dumetorum* (climbing buckwheat).—W. H. Edwards', 1033 Van Buren.
55. *Maurandya antirrhiniflora* (maurandia).—Mrs. Magill's, 1253 Clay.
56. *Hoya carnosa* (wax plant).—A. W. Tinkham's, 827 Topeka avenue; Mrs. Gilmore's, 1257 Topeka avenue. House plants, set out of doors for the summer.
57. *Periploca graeca* (silk vine).—Judge A. B. Quinton's, 1247 Topeka avenue; Mrs. Gilmore's, 1257 Topeka avenue. Both magnificent plants.
58. *Jasminum odoratissimum* (sweet yellow jessamine).—Mrs. Gilmore's, 1257 Topeka avenue.
59. *Aristolochia siphon* (Dutchman's pipe).—Same place.
60. *Madeira vine*.—Judge Horton's, 909 Harrison; Mrs. Crane's, Ninth and Harrison, and other places.
61. *Dioscorea japonica* (cinnamon vine).—N. P. Garretson's, 1101 Harrison; 1011 Topeka avenue, and other places.
62. *Humulus lupulus* (wild hop).—A. L. Johnston's, 516 West Eighth, and two or three other places; growing on fences.
63. *Humulus japonicus* (Japan hop).—1261 Topeka avenue.

A visit to another quarter of the city would no doubt disclose several other vines, such as *Calampelis scabra*, *Lophospermum scandens*, *Bryonopsis laetiflora*, *Abobra viridiflora*, *Pilogyne suavis*, *Thunbergia alata*, *Mina lobata*, *Ipomoea setosa*, etc., as these have all, except the last two, been seen in past years somewhere about the city.

The following vines grow wild in the country, and some of them would make desirable porch vines, in addition to those already in use:

64. *Menispermum canadense* (moonseed).—Five-cornered leaves, large. Felicit island.
65. *Vitis indivisa*.—A strong grower like a grape; leaves heart-shaped; berries inedible. Soldier creek.
66. *Aplos tuberosa* (wild bean).—Well worthy of cultivation; almost as handsome as wistaria, which it much resembles. Deer creek.
67. *Echinocystis lobata* (wild cucumber).—Easily grown and makes dense shade in a short time. Frequently grown in the city for shade. The main objection to it is that it is troubled by hemiptera (squash bugs).
68. *Ipomoea pandurata* (wild morning-glory).—Halberd-shaped leaves. Shunganunga creek.
69. *Enslenia albidia* (wild silk vine).—Heart-shaped leaves, opposite. Ward's creek.
70. *Smilax pseudo-china* (china brier).—Roundish heart-shaped leaves, deep green, with parallel ribs; few or no thorns. Very desirable. Kaw river bottoms.

And there are others not so desirable, as *Phaseolus helvolus* (wild bean vine), *Amphicarpea pitcheri* (hog-peanut), etc.

A General Insecticide.

For some years I have been using and recommending tobacco dust as an all-around insect destroyer. I use it in the greenhouse for lice (aphis), in the open ground for the cucumber beetle, plant lice and for worms of all kinds, and sometimes in the hen-house for lice, etc. It is surely one of the swiftest of all insecticides we can apply, almost or fully equaling buhach, which has given us so very satisfactory results for years. If sifted or scattered over currant bushes, the currant worms curl up and die, and

the bushes will be free from the pest within an hour or less, and fall from them for some time. If blown into the heart of cabbage plants, it means the end of the green worm. Applied in the same way to the nests of caterpillars (and the trees all around us at this time are full of them), especially in the morning or evening, when the worms are all at home, it will clear them out for good in less than an hour. In short, I hardly know what worm or other soft-bodied insect the contact with tobacco dust would not speedily kill. I believe it will even put an end to the potato slug. It is distasteful to many hard-shell beetles also, as may be seen by the fact that with heavy applications we can drive away the cucumber beetle (and perhaps the squash bug). The flea beetle, unfortunately, is not so easily conquered, even if it does not like tobacco smell. Surely, tobacco dust must be considered a most excellent insecticide, and as it is not expensive (in some cases, perhaps, the sweepings of cigar factories, etc., will do and can be had for the hauling), I think every soil-tiller should keep it on hand.

I have usually applied tobacco dust with the bare hand, scattering it rather freely over bushes and plants, and around cucumber, melon and squash vines even inch deep on the ground. The stuff is worth nearly the full price asked for it (\$3 per barrel or so) as a fertilizer, and I have not felt the necessity of using it in a particularly economical manner. For cabbages and caterpillar nests, however, hand bellows of some kind are almost a necessity, as we want to blow the dust well among the leaves or the webs. The ordinary cheap hand bellows, as offered for sale by seedsmen and hardware stores, will do very well for cabbages; but for the caterpillars that dwell in the tents on trees we need something that will reach further and render the application more convenient. There are larger bellows, like the Leggett "powder-gun" and others, which will do the work to perfection. With means so sure and cheap and easily applied, we should let no worm, on tree or bush, escape to bring on more trouble for the future.—T. Greiner.

ATTENTION.

Should be given at once to any symptom or signs of disease as soon as they manifest themselves. By so doing you may save much suffering and expense. DR. HATHAWAY & CO., the experienced and established specialists, have devoted years to the exclusive treatment of those delicate and private diseases of men and women.

Blood and skin diseases, red spots, pains in bones, sore throat and mouth, blotches and eruptions of skin and ulcers, painful swellings, etc., kidney and bladder diseases, frequent micturition, scalding inflammation, gravel, etc., organic weakness, undeveloped organs, nervous debility, impaired memory, mental anxiety, absence of all will power, weak back, lost vitality, melancholy and all diseases, excesses, indiscretion or over-work, recent or old, speedily, thoroughly and permanently cured. How many suffer from the above diseases for many weary months without being able to get cured, and yet how easily curable under DR. HATHAWAY & CO.'s treatment. "Where shall I go to get cured?" many a sufferer asks, not knowing whom to trust. Go where thousands of others have gone and be restored to perfect health, the comforts of home and the enjoyments of society—to DR. HATHAWAY & CO. Many chronic diseases that have been neglected or have failed to yield to the treatment of less skillful hands, soon get well under DR. HATHAWAY & CO.'s superior treatment. When suffering from diseases patients should seek advice from an expert whose experience and practice have taught him to apply promptly the proper remedy and quickly remove the disease. As experts DR. HATHAWAY & CO. acknowledge no superiors. An uncommonly successful practice during many years, with the enormous experience derived from it, enables them to apply the proper treatment at once, without useless experiments, thus saving the patient much time, anxiety and expense. Call on or address DR. HATHAWAY & CO., 68 Dearborn St., Chicago, Ill. Mail treatment given by sending for symptom blanks. No. 1 for men, No. 2 for women, No. 3 for skin diseases, No. 4 for catarrh.

PINEOLA • COUGH • BALM

Is excellent for all throat inflammations and for asthma. Consumptives will invariably derive benefit from its use, as it quickly abates the cough, renders expectoration easy, assisting nature in restoring wasted tissues. There is a large percentage of those who suppose their cases to be consumption who are only suffering from a chronic cold or deep-seated cough, often aggravated by catarrh. For catarrh use Ely's Cream Balm. Both remedies are pleasant to use. Cream Balm, 50c. per bottle; Pineola Balm, 25c. at Druggists. In quantities of \$2.50 will deliver on receipt of amount. ELY BROTHERS, 56 Warren St., New York.

Wanted, an Idea. Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their \$1,800 price offer.

In the Dairy.

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

"Does it Pay to Shelter Milch Cows in Winter?"

The above significant question is the subject matter of one-half of Bulletin 47, from the Experiment Station of the Purdue University, of Indiana. One would think such a question need only to be asked of the men who lived in the dark ages. Can it be that real bona fide American farmers, men who pretend to know that they are living in this year of our Lord 1894, need to have such a question thrust upon their attention? Can it be that there are farmers—dairymen—who believe that cows do not need shelter in winter? Well, yes. There are lots of them. Even in the old dairy districts of New York there are thousands of farmers who turn their cows out of the stable in cold weather, at nine o'clock in the morning and leave them out till four o'clock in the afternoon. During the last month we have seen scores of such herds of cows wandering ankle deep in the snow over the fields, hunting for something to eat. Director Plumb in the aforesaid bulletin says: "In one of the coldest days of December, 1892, when the air was filled with flying snow flakes, the writer rode 150 miles on the railways within the borders of Indiana, and for over two-thirds of the whole of this distance within view of the cars stood herds of hump-backed, shivering cattle in the fields. Instances have been known of herds of twenty or thirty dairy cows turned into the corn fields where the temperature was considerably below zero, and cows have been seen with blankets of ice or sleet on their backs that would not melt, owing to the excessive cold."

To establish something definite in the way of conclusion on this point, Director Plumb took six cows and divided them into two lots, so as to make each about even in milk yield. Lot I. was kept in the barn, in stalls, except for about an hour each day when the weather was sunny or mild, when they were turned into the barnyard. In disagreeable weather the cows of this lot were turned out only to water and returned at once to the stable. Lot II. was turned into the yard each morning at 8 o'clock, in all sorts of weather, and left till 4 o'clock p. m. As all the cows were kept over night in a warm stable, the conditions were better than many herds received. A trial of these two lots under these conditions was made for forty-eight days. The character of the food fed was the same in each case, it being clover hay, corn meal and bran. It is very interesting to read the account of this experiment all the way through, but we have not the room to publish more than the final conclusions, which were as follows:

Of food consumed, lot I. consumed 1,996.2 pounds clover hay, 1,239 pounds corn meal, 1,168.5 pounds of bran. Total, 4,403.7 pounds. Lot II. consumed 1,483.8 pounds clover hay, 1,627 pounds corn meal, 1,536.7 pounds bran. Total, 4,647.5 pounds. The cost of the food is based on \$8 a ton for hay, \$20 a ton for corn meal, \$13 a ton for bran. At these rates, lot I. made a saving in food of \$4.23. The milk of each cow was weighed and recorded at each milking. Lot I. gave 3,041.2 pounds. Lot II. gave 2,880.1 pounds; gain of lot I. over lot II. 161.1 pounds. At the market price of milk, 15 cents a gallon, the gain of lot I. over lot II. was \$2.79. The figures show that lot II. ate more food and made less milk than lot I. In the gain in live weight the difference was very marked. Lot I. gained during the experiment 231 pounds, while lot II. lost 33 pounds. We get the following summary, as deduced by the bulletin:

| | |
|--------------------------------------------|---------|
| Saving in cost of feed eaten..... | \$ 4.23 |
| Increased value of milk product..... | 2.79 |
| Value of 231 lbs. flesh at 2½¢ per lb..... | 5.77 |

Saved by sheltering 3 cows.....\$12.79

Saved by sheltering 1 cow..... 4.26

Every item, save that of the gain in live weight, was at once available in cash. The usual length of time for fattening cows in northern climates is 200 days. What would the saving be for a whole winter? Then, if this be true of three cows, where will the wicked and ungodly appear that have fifteen to forty or fifty cows? Any man who has ciphered as far as long division ought to be able to see for himself the fearful waste that is going on because of this out-door business. —Hoard's Dairyman.

Improper and deficient care of the scalp will cause grayness of the hair and baldness. Escape both by the use of that reliable specific, Hall's Hair Renewer.

To Pack Butter for Winter.

Good butter may be safely packed to keep six months or more if the right way is taken. It used to be done years ago, when it was the custom to keep the surplus product for sale then, there being no winter dairying to supply the demand. The butter must be naturally good and sweet and worked quite free from the buttermilk by thorough washing. There need be no fear that this will hurt the butter, for it cannot take anything from it, the fat being wholly insoluble in water, and only the buttermilk will be washed out of it, which it must be, or it will be a detriment to the butter, as producing changes of the fat into volatile acids, by which the butter is made strong and finally rancid. The best packages for this use are glazed earthen jars or sweet, clean white oak or spruce tubs, painted or varnished on the outside. The tubs are soaked in brine, then scalded, then washed in two or three waters, then rubbed with fine salt inside, and while wet the butter is packed in them, being firmly pressed down so as to leave no vacancies in the mass. When the package is filled to within half an inch of the top, a clean cloth, or, better, some parchment paper, is fitted closely over the butter and half an inch up the edge of the package, fine dry salt is then put in smoothly to the top, then a dry cloth, well washed, is tied down firmly, then parchment paper and then one more cloth. The air is thus excluded, and the butter will be as good or a little better than when it was packed, as it undergoes a ripening process by which the fine flavor of the best butter is developed. —Montreal Herald.

When to Make Butter.

Of all the thankless tasks attempted by the farmer's wife, making summer butter for market is the most discouraging. Possibly they feel compelled to do it because the cows are on the farm and must yield a dividend, be it ever so small. But is it not mistaken economy, this making of eight and ten-cent butter? Hundreds of thousands of pounds are dumped on the market each summer, and bring but a mere pittance. It entails a lot of hard work, and the returns are meagre. Most farmers attempt too much, consequently the cows are not well kept, and the wife has to do the milking and churning. "A little farm well tilled," will probably never be the rule in this great "far West," at least not until the land is more densely populated. In the general rush and hurry, butter-making is a side issue. Making butter for private customers, however, does pay, and many farmers' wives are doing nicely in this line of industry. But to the producer of farm butter for market, I say, keep fewer cows and raise more chickens during the hot weather. Make butter during the winter, as it then almost invariably brings a good price. If you do not live sufficiently near to a creamery to which you can send your milk in summer, feed it to growing pigs, chickens and laying hens. By this use it will pay a larger dividend than if converted into a soft, unpalatable and almost unsalable butter.

Many farms are supporting unprofitable cows. Weed them out and give their feed and care to a few good ones. Breed for better milk and butter-producing animals. Learn how to make the best butter. Plan to have the cows fresh during the late fall, winter or early spring, when prices are good, the labor of butter-making less wearisome, and when the men can help at the churn. Make all the butter possible at that season. Put it on the market in an attractive form, and by keeping each make up to a high standard, you will soon have a reputation for good butter, which will enable you to get more than the regular market price. If knowledge is lacking, go somewhere and take lessons.

Dairy Notes.

At the instance of Dairy Commissioner Adams, the Wisconsin law prohibiting the sale of oleomargarine, colored to resemble butter, has been tested, and sustained in a test case tried at Madison, Wis.

An Eastern dairymen says: "The man who is too aristocratic to mingle freely with his calves, and his cows, also, will never succeed as a breeder of dairy stock. There is a social side to a cow's nature as well as to a man's. It is from her social nature that comes not only the milk but the fat as well, given from a spirit of pure motherly beneficence."

The farmers of Dickinson county received \$24,000 for milk during the month of July. The Belle Springs Creamery Company, alone, with its four or five

branches, paid \$14,000 of the above. Such an exhibit as this from a county that was afflicted with drought more than any other part of the State during the summer, shows that the dairy business is taking the lead, and can be made to pay where the amount of rain is too small for wheat and corn.

The Association of Agricultural Colleges and Experiment Stations, at their late meeting, in Denver, adopted two very important resolutions in regard to the testing of milch cows. The first was to the effect that all official tests should be made with the Babcock test. The second was that in all estimates of butter capacity the yield should be figured by adding one-sixth (16 2-3 per cent.) to the total fat. Thus, if a cow gives thirty pounds of milk which tests 5 per cent. fat, her butter yield will be estimated at 150 pounds (total fat) plus one-sixth, 0.25 pound (surplus), or 1.75 pounds.

Nothing is useless to the man of sense; he turns everything to account. —La Fontaine.

Heart Disease Kills

Suddenly; but never without warning symptoms, such as Faint, Weak or Hungry Spells, Irregular or Intermittent Pulse, Fluttering or Palpitation of the Heart, Choking Sensations, Shortness of Breath, Swelling of Feet and Ankles, etc.

Dr. Miles' Heart Cure, Cures Heart Disease.



Mr. Geo. L. Smith, of the Geo. L. Smith Mantel Co., Louisville, Ky., writes Feb. 26, 1894: "For about a year I was a terrible sufferer from heart trouble, which got so bad I was obliged to sit up in bed to get my breath. I had to abandon business and could hardly crawl around. My friend, Mr. Julius C. Voght, one of our leading pharmacists, asked me to try Dr. Miles' Heart Cure. I had used little more than a bottle when the pain ceased and palpitations entirely disappeared. I have not had the slightest trouble since, and today I am attending to business as regularly as ever."

Sold by druggists everywhere. Book on Heart and Nerves sent free. Address Dr. Miles Medical Co., Elkhart, Ind.

Dr. Miles' Remedies Restore Health.



DEAFNESS

and Head Noises relieved by using Wilson's Common Sense Ear Drums. New scientific invention; different from all other devices. The only safe, simple, comfortable and invisible Ear Drum in the world. Helps where medical skill fails. No wire or string attachment. Write for pamphlet. WILSON EAR DRUM CO., 252 First Bldg., Louisville, Ky. Offices: 1123 Broadway, New York.

UR invited to send for my latest price list of small fruits. Half million strawberry plants, 800,000 Progress, Kansas and Queen of West raspberry plants. B. F. Smith, Box 6, Lawrence, Kas. Mention this paper.

A. H. GRIESA, Prop'r Kansas Home Nurseries, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberries—also shade and evergreen trees adapted to the West.

ESTABLISHED IN 1873.

WILLIS NURSERIES.

Offers for fall of 1895 large stock, best assortment. Prices low. Stock and packing the best.

We should be glad to employ a few reliable salesmen. Address A. WILLIS, Ottawa, Kansas.

[When writing mention KANSAS FARMER.]

Timothy or Clover SEED.

Before you buy write us stating the quantity you need or wish to buy. We can SAVE YOU MONEY and give you the best Northern-grown clean seed. We are right in the center of the best seed-producing country in Minnesota, that have the finest crops. We can give you lowest prices for best quality. Always buy your seeds from the growers.

FARMER SEED CO., Faribault, Minn.

O. KOZLOWSKI, Manager.

The Western Trail

Is published quarterly by the Chicago, Rock Island & Pacific Railway.

It tells how to get a farm in the West, and it will be sent to you gratis for one year. Send name and address to "Editor Western Trail, Chicago," and receive it one year free.

JOHN SEBASTIAN, G. P. A.

Kansas Tannery.

ESTABLISHED IN 1889.

Does a general tanning business, including robes, rugs, etc. Tanning Galloway hides for robes a specialty. First-class work, reasonable prices. All kinds of leather in stock—best quality. Have you any oak bark? Good prices paid for it. Write me.

M. C. BYRD, Lawrence, Kas.

A LABOR-**SAVING** INVENTION—**THE LILLIE CORN HUSKER**

PROTECTS YOUR HAND FROM CUTS, YOUR WRIST FROM SPRAINS

WILL PAY FOR ITSELF IN ONE DAY.

Sent postpaid on receipt of 30¢. For further information, address F. D. KEES, BEATRICE, NEB.—MFG.

Hay is Plenty and Corn is Husked

where the corn crop is handled by the

Keystone Corn Husker and Fodder Shredder.

Send for free book, "The Great Leak on the Farm."

KEYSTONE MFG. CO., STERLING, ILL.

or Columbus, Ohio, Council Bluffs, Ia. Kansas City, Mo., St. Louis, Mo. Philadelphia, Pa.

ESTABLISHED IN 1865.

Hart Pioneer Nurseries

— FORT SCOTT, KANSAS. —

W. F. SCHELL, Secretary and Manager.

A. B. COMBS, Assistant Secretary.

Five hundred and sixty acres in nursery and 240 acres in bearing orchard. Extensive growers for the wholesale and retail trade. All kinds of nursery stock for sale. Write and obtain our prices before placing your order elsewhere. Unequaled railroad facilities. No transfer or exposure of stock. We take up, pack and ship from the same grounds. SPECIAL PRICES on large orders and carload lots. We solicit correspondence and invite inspection of our stock.

RELIABLE AGENTS WANTED.

GO BUY A "STAY ON" BURLINGTON

STABLE BLANKET.

Your horse is always clean. It keeps the hair smooth and glossy. No saddle required. No tight girth. No sore backs. No chafing of mane. No rubbing of tail. No horse can wear it under his feet. No Come Off to Them! Your Harness Dealer Keeps Them.

If not, write us for Free Catalogue and prices. The "Stay On" Burlington is patented. We protect our patents.

BURLINGTON BLANKET CO. Burlington, Wis.

Pat. Renewed July 9, 1894.

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.

LAME MULE.—I have a mule that fell on a scraper and cut and bruised the knee joint of the hind leg on the front side, three or four weeks ago. The knee was swollen twice the natural size and the cut ran for some time but has closed up. We opened it and nothing but blood came from it. We kept a poultice on at times, then bathed it with liniment. W. A. P. Nowata, I. T.

Answer.—Apply a cantharidine blister to the enlargement and turn the mule out. Do not open the enlargement any more or you may have an open joint.

About Marketing Produce.

Most farmers who have live stock have learned to market them direct, but with grain and produce they rely mainly on the local dealer, and he in turn usually ships to some commission merchant, which the farmer could do himself, and thereby save a large margin of profit in most cases. In all the principal markets there are trustworthy merchants, which the farmer could do commission merchants who do a legitimate business, and with this class the producer, when he has anything for sale, should communicate and advise with before marketing the produce.

The principal drawback has been the swindling operations of dishonest concerns, who prey on the trade, thereby causing the shipper to lose. However, it is a very easy matter to ascertain who is responsible and reliable previous to shipment. The Kansas Farmer Company always investigates every such house before they admit their advertisement to their columns, and we shall always be glad to look up the commercial standing of any house soliciting Kansas business for our readers.

Another difficulty encountered by farmers shipping grain, is the great trouble in getting cars, because the local grain buyer usually so manipulates matters as to discourage individual shippers. However, if in such cases our readers will report the matter to this office we will see what authority our Railroad Commissioners have to prevent discriminations.

Another important point in shipping in less than car lots is to know just to whom you are to consign, and also to confer with them previous to shipment. It pays to ship your own products, provided you do it properly. As showing some of the difficulties to be encountered, we quote the following from the New York Tribune:

"The Rochester Times says an abundant crop of apples will be gathered in this State; many of the orchards of Monroe, Orleans, Genesee and Wayne counties have developed heavily in places where a good yield was once despaired of.

"Some of the Tribune's subscribers occasionally send severe complaints to the office about commission men in this city. They charge them with indifference, and even the lack of probity, about the goods that have been forwarded here, and seemed surprised when an early mail, after arrival, fails to bring them a return. Many of these complaints could be more consistently sent to a seller than to a newspaper office. Still, we do not object to impart what we have learned about such matters. It is not impossible that consignments may at times fall into the hands of irresponsible, unprincipled persons, but property can be forwarded to known reputable dealers, men who have been long, or fairly so, established in the produce trade. Even with best surroundings, owners should comprehend that all goods are expected to take their natural chances in the market. Now, it often happens that scattering parcels or lots of produce have an impediment to their sale by being composed of odds and ends—things that may have been rejected in the home market, something perhaps perishable and held back too long. Such articles cannot be expected to compete with the promptness of sale of new or seasonal stuffs. This is strictly true of old dairy products, which can obtain no promotion in quality when the grass season opens against them. Any well-established dealer will say that he rarely has difficulty in disposing of

strictly first-class food commodities, particularly those of the dairy.

"The best suggestion that can be given in reference to marketing transient lots of perishable produce, when they have not been picked up by collectors, is for the sender to know that his goods have unquestionable merit, and aim to ship them to parties who deal in specialties. Of course, such firms prefer to handle good-sized commercial lines; still, as we have remarked, there is always room for choice small lines.

"There are in New York and other large cities a large number of dealers who run a miscellaneous store business. In this they are forced to cater to the large class of under-grade buyers. It would do no good to delicate butter, choice cheese and lightly-guarded eggs to be stored a night or two in hot weather with piles of cabbages, barrels of onions or fruits of varying condition. The nature of this mixed business, as a rule, prevents the dealers from having the requisite facilities for properly housing stuff. Besides, they have not the time to give needed attention to certain strictly fine produce.

"Always correspond with the party you propose to entrust goods with before you ship. The leading firms of any trade will possibly advise you where to place your offering if they decline to handle it.

"In answer to several recent correspondents who inquire about the commercial standing of F. I. Sage & Son, a Tribune representative called upon the firm and they readily gave him an exhibit of their current business, and also gave him a note of introduction to their New York bankers, directing them to respond to any questions that might be asked as to their standing. The bankers stated that they regarded the firm among their most straightforward customers. Mr. Sage explained, in reference to the non-sale of several old parcels of butter, that they 'struck the market in a most unfavorable time and were devoid of proper table merit, and that a merchant could hardly be expected to keep constantly writing about stock that was dying on his hands.'"

Of Interest to Beef Breeders.

'Tis said that Kansas is a land of surprises, and our field man reports one of his surprises of the year in the late visit at the Rock Creek herd of Hereford cattle, owned by the Sheldon & Wheeler Hereford Cattle Company, located near Burlingame, Osage county, twenty-six miles south of Topeka, on the Atchison, Topeka & Santa Fe railroad. The herd was founded in the early eighties by Thos. J. Higgins, formerly of Council Grove, Kas., and was recruited from time to time by the best English and American animals. Its history in the show rings of the West and the strong character of the general make-up of the herd is a familiar theme with the beef cattle breeders of all the West. The herd now consists of over two hundred head, of which one hundred and seven are mature breeding cows, and among them a strong array of high-class imported individuals.

Four bulls are doing service in the herd. August Wilton 35014 by Wild Eyes 11559, that won third prize "four animals under 4 years old, get of one sire," at the greatest of American Hereford exhibits, the World's Fair. Wild Eyes was by Lord Wilton 4057 and he by Sir Rodger 3850. His dam was equally as well bred. His tenants are Bloom 4075 by Fowler 12899 and out Cherry Blossom 19435; Ashton Boy 52058 by Cherry Boy 26495, that won second money, "herd graded by ages," at the World's Fair. The dam of Ashton Boy was Ashton Beauty 24483 by Chancellor 5310, and he by Horace 2492. He now has to his credit a string of twenty-three youngsters in the herd that are as broad-backed and mellow as anybody's Herefords. The highly-bred young gentleman, Minnie's Cherry 57888 by Cherry Boy 26495 and out of Minnehaha 23087, has eleven sons and daughters that are sure short leeters.

That the reader may the more definitely understand the magnitude of the breeding operations of the Rock Creek herd owners, it will not perhaps be amiss to state that they have \$120,000 back of the business, that the several farms aggregate 3,000 acres, and in order to keep the manager and assistants moving, the horse division now aggregates one hundred and twenty-five coach and roadster horses that have been recruited and added to the original stud from time to time. The season's corn crop is about 35,000 bushels, and in order to clean up closely, over six hundred head of Poland-China and Berkshire swine are being fitted for the breeder and general stock hog raiser. Nor is this all, for the visitor finds two hundred and fifty head of high-grade Hereford cows and some good yearling bulls and heifers, one hundred and fifty calves that are suited exactly for the use of the range man or general farmer.

The officers of the company are Mr. C. M. Sheldon, president; H. H. Wheeler, vice president; H. H. Taylor, secretary, and L. S. Wheeler, treasurer. Mr. Sheldon is a native Kansan and Mr. Taylor a Kansan by adoption for twenty-five years. Any correspondence pertaining to the live stock may be addressed to Mr. Sheldon, who is also president of the First National bank, or to Mr. Taylor, who will take pleasure in answering all inquiries. More will be given later on concerning the breeding of the females that comprise the registered herd.

Care is no cure, but rather corrosive for things that are not to be remedied.—Shakespeare.

Gossip About Stock.

The most extensive sale of Daddies ever offered in Kansas will be made at Connors, by Kirkpatrick & Son's sale of Aberdeen-Angus cattle advertised in this issue of the Farmer. This is a closing-out of the entire herd, and therefore presents a rare chance to get a good start with this famous breed of cattle.

K. N. Friesen, proprietor of the Garden Valley herd of Poland-China hogs, places his advertisement in the "Breeder's Directory" of this paper, this week. His farm is located six miles north and one mile east of Halstead, Kas. He invites inspection of his stock and requests that when you write you always mention where you saw his announcement.

The attention of our readers is called to the advertisement of R. L. Blodgett & Sons, of Beatrice, Neb., which appears for the first time in this issue of the Kansas Farmer. It is in the "Directory" and announces to you that they are breeders of Poland-China, Chester White and Berkshire hogs. Salem Chief, at head of their Chester White herd, won the special premium at the Wichita fair, last week, for being the largest hog.

That extensive breeder, Mr. T. A. Hubbard, of Rome, Sumner county, Kansas, rises to make a few remarks, as follows: "I have about 100 sows to breed and about fifty males ready for service this fall. Including several good fall yearlings. Hogs all in the pink of health and in extra fine breeding condition. My English Berkshires have been prolific and proved good mothers. Lena IV, 29733 farrowed twelve pigs and raised eleven. She is a descendant of old Lord Liverpool, and her grandsire was Joker 19000, the hog that defeated Longfellow for sweepstakes at our State fair in 1877, and her sire, Hubbard's Model 2574, was a much better hog than Joker. Wanderer 17079, who was 9 years old last June, farrowed nine pigs and raised eight good pigs. She is by Royal Duke 13923 and he by Sovereign Duke, dam Lady Dorsey by British Champion 4495, combining the best blood of those princes of breeders, Gentry, Dorsey and Rollins and our English cousins across the water. My Poland-China herd is headed by World Beater, a Tecumseh pig, and Jumbo 11803, bred by R. S. Cook. My Poland-China litters were not quite so large as the Berkshires but fairly good. I have plenty of males ready for use of either breed, including a few herd-headers, also extra good sows bred to farrow this fall. Hogs are scarce and now is the time to start right, and on or two good sows will stock your farm. Write me and you will learn something that will be of interest to you and do you good. Come and see my stock and stay a few days. We will make your stay pleasant. Have not raised much corn for two years. Hogs have run on alfalfa and had some ship, and no herd was ever in better condition to breed. They are in the pink of condition and health."

Helps for the Housewife.

The drudgery of housework is being more and more lessened by the many helpful, labor-saving devices which modern ingenuity has made possible. One of the most practical and effective machines of this class is the Enterprise Meat Chopper, which minces perfectly meats for salads, mince meat, Hamburg steak, beef for tea, corn for fritters, etc. It is made in different sizes, the smallest being large enough for an ordinary family and inexpensive enough to be afforded by any family. The Enterprise Manufacturing Company, Third and Dauphin Sts., Philadelphia, manufactures this and many other household helps, among which are the Enterprise Raisin Seeder (which will seed a pound of raisins in five minutes). These devices are sold by hardware and general dealers everywhere. An attractive descriptive catalogue will be sent free by the manufacturers to any one on application. It will well repay any housekeeper to send for it.

PATENTS.

T. S. BROWN,

Patent Attorney and Solicitor. Fifteen Years' Experience.

335 Sheidley Bldg. KANSAS CITY, MO.

A FARM! IN KANSAS.

A big prolific farm cheap. Cheap because the owner is too busy and too far away to run it. The Mt. Pleasant Stock Farm, at Colony, Anderson county, East Kansas—1,439 acres of land; fine buildings. Write for booklet with surprising offer. Write J. B. LEWIS, 301 Congress St., Boston, Mass.

TEN ACRES IS ENOUGH

If situated on the famous Live Oak Peninsula, adjacent to Aransas Pass, to support the largest family. Do you know that for fruit and vegetables Southwestern Texas is the equal of California? Grapes and Pears can be put on the market three weeks earlier than from any other section.

Vegetables Grow the Year Around and Northern markets supplied when prices are highest. Soil wonderfully productive. Climate almost perfect and unexcelled for health. Range of temperature 25 degrees above in winter and 45 in summer. Abundance of good fresh water.

TEN-ACRE TRACTS, \$200. One-third cash, one-third in one year and one-third in two years. The very best judgment used for those entrusting selection to us, and their interests protected. We have also for sale tracts from 1,000 to 10,000 acres and some of the choicest city property in the new seaport, ARANSAS PASS, now attracting so much attention. Correspondence solicited. Maps, plats and other information furnished on application. Address ARANSAS HARBOR REAL ESTATE CO. Aransas Pass, Texas.

TWO-CENT COLUMN.

"For Sale," "Wanted," "For Exchange," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order. Special 1—All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates, cash with order. It will pay. Try it!

FOR SALE—A few Cotswold bucks. Address Jas. Walton, Newton, Kas.

FOR SALE—White Plymouth Rock chickens. Hens, 50 cents; cockerels, \$1. Inquire at KANSAS FARMER office.

WANTED—To exchange a cow for fresh milk cow. Jersey preferred. Will pay something to boot. Inquire at KANSAS FARMER office.

WANTED—Buyers for 100 cockerels. A few pullets of Light Brahmas, Barred Plymouth Rocks, Black and White Langshans. For prices apply to Mrs. B. F. Scott, Burlington, Kas.

POTATO-GROWERS—Salzer's earliest varieties, 150 bushels per acre, thin soil. Superior cockers. Orders collected, 50 cents per bushel. Address F. L. McCellan, Oakland, Kas.

WE MAKE AND FULLY WARRANT THE Arched Hedge Trimmer, a mowing device that will cut a mile of hedge in two hours as smooth as can be done with a hand shears in a week. Price only \$25. E. C. Gordon & Sons, Chetopa, Kas.

STRAYED OR STOLEN—From Mrs. A. G. Lord, 2001 Bolles Ave., Topeka, one eight-year-old dehorned, brindled, milk cow, one of teats marked by barbed wire cut. Liberal reward for any information to above address.

DOUGLAS COUNTY NURSERY—Offers for fall and spring trade a general supply of all kinds of nursery stock. Send for catalogue. Address Wm. Plasket & Son, Lawrence, Kas.

WANTED—To rent a farm in eastern Kansas stocked with thirty or forty milk cows, to tend farm and keep cows on shares. Preferable near to creamery. Isaac Betts, Hough, Russell Co., Kas.

TO FRUIT, MARKET GARDENERS AND POULTRYMEN—For rent, eighty-acre fruit and truck farm, five miles from Topeka. For particulars apply to "E. W. S.," care KANSAS FARMER, Topeka.

FOR SHORT-HORN BULLS—Calves and yearlings, extra fine, write D. P. Norton, Council Grove, Kas.

THE BEST KINDS OF STRAWBERRIES—Downing, Bubach, Cumberland—mailed to any address for \$1. These varieties do well in Kansas. O. M. Record, Thayer, Kas.

FOR EXCHANGE—Finely located and choice rental and business properties in Kansas City or Topeka to trade for farms, stock ranches or wild lands. Send numbers and full description in first letter. I will make offers. John G. Howard, Topeka, Kas.

FOR RENT—Photo gallery, Syracuse, Kansas. County seat, no competition. Address Box 119, Syracuse, Kas.

10 EXTRA FALL GILTS AND FIFTY SPRING pigs, the pigs sired by Tecumseh J. Corwin 10744 S. and the great breeding and show boar Riley Medium 12306 S. E. T. Warner, Princeton, Franklin Co., Kas.

STEAM CIDER MILL—Two miles west of Kansas avenue, on Sixth street road, Topeka. Farmers, bring your apples Tuesdays, Thursdays and Saturdays of each week until December. I will make cider for you at 2 cents per gallon. H. W. McAfee.

WANTED—Young ladies and gentlemen to learn bookkeeping, stenography and office work. Limited number pay expenses by assisting two hours daily. Address H. Coon, Secretary, Kansas City, Mo.

WRITE—To Alex. Richter, Hollywood, Kas., for information concerning sub-irrigation. Enclose 2-cent stamp for reply. Manufacturer of galvanized sub-irrigation pipe.

FOR A GOOD HAND-SEWED BUCK, CALFOR kid glove or mitten, address Mrs. Ed. Warner, Lexington, Clark Co., Kas. Reference: KANSAS FARMER.

FOR SALE—Hereford bulls sired by a son of Mr. Funkhouser's celebrated Heald. Apply to Peter Sim, Wakarusa, Kas.

WANTED—Sale bills, horse bills, catalogues and other printing. A specialty at the Mail job printing rooms, 900 North Kansas Ave., North Topeka.

THE FINEST HONEY—Is gathered from alfalfa and clover blossoms. You can buy it of the bee-keeper, cheap and in any quantity, by freight, and know it is genuine. Address Oliver Foster, Las Animas, Colo.

WE MAKE A GOOD FARMER'S SPRING WAGON, on two lazy backs and let-down end-gate, for \$55. Warranted. Kinley & Lannan, 424-426 Jackson street, Topeka.

WANTED—Buyers for Large English Berkshires. One hundred pure bred pigs, farrowed in March and April, are offered for sale at from \$10 to \$15 each. Farm two miles west of city. Riverside Stock Farm, North Topeka, Kas.

\$75 a month and expenses to competent men and women. Write for particulars at once. E. C. Morse & Co., 56 Fifth Ave., Chicago.

Salesmen Wanted!

\$100 to \$125 per month and expenses. Staple line; notion permanent, pleasant and desirable. Address, with stamp, King Mfg. Co., P 29, Chicago, Ill.

KENDALL'S SPAVIN CURE. Certain in its effects and never blisters. Sold everywhere.

DIRECT-UM BIT!

Best Combination Bit made. Severe or Easy as you want it. Sample mailed, XC \$1.00. Nickel..... 1.50. RACINE MALLEABLE IRON CO., Racine, Wis.



OIL Burner One-half cheaper than wood or coal. No smoke. Goes in any stove or furnace. Want Agents on salary or commission. Send for catalogue of prices and terms. No wicks used. NATIONAL OIL BURNER CO. 924 CEDAR AVE. CLEVELAND, O.

MARKET REPORTS.

Kansas City Live Stock.
KANSAS CITY, Oct. 7.—Cattle—Receipts since Saturday, 12,899; calves, 401; shipped Saturday, 1,448 cattle, 64 calves. The market was generally steady on both sides of the river. The following are representative sales:

| No. | Ave. Price. | No. | Ave. Price. |
|---------|--------------|---------|--------------|
| 44..... | 1,810 \$3.00 | 6..... | 1,488 \$1.50 |
| 19..... | 1,355 4.35 | 84..... | 1,354 4.25 |
| 27..... | 1,305 4.25 | 8..... | 1,236 4.00 |
| 3..... | 1,107 3.93 | | |

| TEXAS AND INDIAN STEERS. | | | |
|--------------------------|--------------|---------|--------------|
| 223..... | 1,090 \$3.10 | 22..... | 1,407 \$3.10 |
| 73..... | 1,097 3.10 | 10..... | 1,011 3.00 |
| 26..... | 980 2.65 | 5..... | 1,084 2.50 |
| 8..... | 993 2.40 | 51..... | 963 2.40 |

| COLORADO STEERS. | | | |
|------------------|--------------|----------|--------------|
| 100..... | 1,290 \$3.75 | 126..... | 1,303 \$3.75 |
| 38..... | 1,323 \$3.80 | 23..... | 1,308 \$3.40 |
| 23..... | 1,120 3.10 | 8..... | 938 2.65 |

| OKLAHOMA COWS. | | | |
|----------------|------------|---------|------------|
| 16..... | 835 \$2.65 | 3..... | 938 \$2.25 |
| 17..... | 812 \$2.50 | 33..... | 703 \$2.50 |
| 20..... | 722 2.50 | 5..... | 800 2.50 |

| TEXAS AND INDIAN COWS. | | | | | |
|------------------------|-------|--------|---------|-----|--------|
| 17..... | 818 | \$2.50 | 38..... | 703 | \$2.50 |
| 20..... | 722 | 2.50 | 5..... | 880 | 2.50 |
| 4..... | 725 | 1.75 | 4..... | 750 | 1.75 |
| 1..... | 1,000 | 1.50 | 1..... | 890 | 1.50 |

| STOCKERS AND FEEDERS. | | | |
|-----------------------|--------------|---------|------------|
| 42..... | 1,209 \$3.90 | 16..... | 981 \$3.65 |
| 20..... | 1,195 3.45 | 22..... | 965 3.40 |
| 11..... | 705 3.25 | 71..... | 979 3.20 |
| 1..... | 1,010 2.90 | 68..... | 911 2.85 |

Hogs—Receipts since Saturday, 4,289; shipped Saturday, 1,554. The market was steady to 5c lower. The following are representative sales:

| | | | | | |
|----------|------------|----------|------------|---------|------------|
| 44..... | 313 \$4.05 | 55..... | 216 \$4.01 | 36..... | 208 \$4.00 |
| 92..... | 200 4.00 | 41..... | 513 4.00 | 67..... | 291 4.00 |
| 43..... | 275 3.97½ | 43..... | 433 3.95 | 57..... | 234 3.93 |
| 68..... | 245 3.95 | 76..... | 238 3.92½ | 58..... | 282 3.92½ |
| 142..... | 270 3.92½ | 70..... | 274 3.92½ | 71..... | 242 3.92½ |
| 85..... | 211 3.90 | 86..... | 188 3.90 | 71..... | 221 3.90 |
| 61..... | 277 3.90 | 60..... | 195 3.90 | 74..... | 201 3.90 |
| 78..... | 224 3.90 | 43..... | 267 3.90 | 21..... | 209 3.90 |
| 50..... | 272 3.90 | 57..... | 247 3.90 | 69..... | 277 3.90 |
| 16..... | 298 3.90 | 80..... | 225 3.87½ | 81..... | 192 3.87½ |
| 91..... | 185 3.87½ | 83..... | 223 3.85 | 91..... | 189 3.85 |
| 73..... | 217 3.85 | 61..... | 236 3.85 | 53..... | 263 3.85 |
| 94..... | 205 3.85 | 51..... | 236 3.85 | 65..... | 246 3.85 |
| 29..... | 213 3.82½ | 82..... | 215 3.82½ | 85..... | 201 3.82½ |
| 79..... | 181 3.82½ | 78..... | 205 3.80 | 71..... | 202 3.80 |
| 68..... | 215 3.75 | 87..... | 194 3.75 | 76..... | 221 3.75 |
| 33..... | 175 3.75 | 108..... | 163 3.70 | 71..... | 217 3.70 |
| 82..... | 181 3.70 | 8..... | 357 3.60 | 19..... | 134 3.60 |

Sheep—Receipts since Saturday, 5,845; shipped Saturday, 787. The market was generally 10c lower. The following are representative sales:

| | | | |
|---------|-----------|---------|-----------|
| 11..... | 66 \$3.25 | 5..... | 66 \$3.25 |
| 40..... | 65 3.15 | 50..... | 69 3.25 |

Horses—Receipts since Saturday, 336; shipped Saturday, 47. The market was quiet to-day and very little business was transacted. Buyers are coming to the city and receipts are fair. This week's market promises to be as strong as last week. There is some inquiry for mules.

Chicago Live Stock.
CHICAGO, Oct. 7.—Cattle—Receipts, 22,500; market steady; best 10c higher; fair to best beefs, \$3.50@5.60; stockers and feeders, \$2.35@3.70; mixed cows and bulls, \$1.25@3.50; Texas, \$2.75@3.35; western, \$3.00@4.15.

Hogs—Receipts, 35,000; market steady early and 5c lower later; light, \$3.70@4.30; rough packing, \$3.55@3.70; mixed and butchers, \$3.70@4.30; heavy packing and shipping, \$3.75@4.35; pigs, \$1.75@4.05.

Sheep—Receipts, 20,000; market strong; native, \$1.50@3.85; western, \$2.25@3.60; Texas, \$1.60@2.90; lambs, \$3.00@4.80.

St. Louis Live Stock.
ST. LOUIS, Oct. 7.—Cattle—Receipts, 5,000; market lower; Texas steers, \$2.50@3.60; native steers, \$3.50@5.25.

Hogs—Receipts, 3,000; market 5c lower; heavy, \$4.10@4.20; mixed, \$3.70@4.10; light, \$4.00@4.20.

Sheep—Receipts, 2,000; market shade lower.

Chicago Grain and Provisions.

| | Oct. 7. | Opened | High'st | Low'st | Closing |
|---------------|---------|--------|---------|--------|---------|
| Wh't—Oct..... | 57½ | 57½ | 57½ | 57½ | 57½ |
| Dec..... | 59½ | 59½ | 58½ | 58½ | 58½ |
| May..... | 63½ | 63½ | 62½ | 62½ | 62½ |
| Corn—Oct..... | 30 | 30 | 29½ | 29½ | 29½ |
| Dec..... | 27½ | 27½ | 27½ | 27½ | 27½ |
| May..... | 29½ | 29½ | 28½ | 28½ | 28½ |
| Oats—Oct..... | 17½ | 17½ | 17½ | 17½ | 17½ |
| Dec..... | 17½ | 17½ | 17½ | 17½ | 17½ |
| May..... | 20½ | 20½ | 20½ | 20½ | 20½ |
| Pork—Oct..... | 8 40 | 8 40 | 8 40 | 8 40 | 8 40 |
| Dec..... | 9 50 | 9 50 | 9 50 | 9 50 | 9 50 |
| Jan..... | 5 80 | 5 80 | 5 80 | 5 80 | 5 80 |
| Lard—Oct..... | 5 82½ | 5 82½ | 5 80 | 5 82½ | 5 82½ |
| Jan..... | 6 00 | 6 00 | 6 00 | 6 00 | 6 00 |
| Ribs—Oct..... | 5 25 | 5 25 | 5 17½ | 5 25 | 5 25 |
| Nov..... | 4 95 | 4 90 | 4 90 | 4 90 | 4 90 |
| Jan..... | 4 85 | 4 90 | 4 85 | 4 87½ | 4 87½ |

Kansas City Grain.
KANSAS CITY, Oct. 8.—Wheat by sample was 1 to 2c lower here to-day. The receipts were the largest of the crop year. There was a fair demand for a time, but buyers got all they wanted before all samples were sold, and at the close the market was very weak, with some samples unsold. Soft wheat went down as much as other varieties.

Receipts of wheat to-day, 216 cars; a year ago, 57 cars.

Sale of car lots by sample on track, Kansas City: No. 2 hard, 6 cars choice early, 58c, 1 car 57½c; 6 cars 57½c, 3 cars 57c; No. 3 hard, 4 cars 56c, 7 cars 55c, 16 cars 54c, 2 cars 52c; 3 cars 51c, 3 cars 50c; No. 4 hard, 1 car 47c, 3 cars 45c, 1 car 44c, 1 car 43c, 6 cars 42c, 2 cars 41c, 2 cars 40c; rejected, 1 car 37c, 2 cars 35c, 1 car 33c; soft, No. 2 red, nominally, 61c@62c, No. 3 red, 1 car 59c, 2 cars 58c, 2 cars 57½c; No. 4 red, 4 cars 55c, 1 car 53c, 1 car 52c; rejected, 3 cars 45c, 1 car 42c 2 cars 40c, no grade, nominally, 37c@35c; spring, No. 2, 4 cars 55½c, 7 cars 55c, 37 cars 55c; No. 3, 4 cars 53½c, 17 cars 53c, 2 cars 51½c, 2 cars 52c; rejected, 1 car 45c, 1 car 47c; white spring wheat, nominally 45c@50c.

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When you write mention Kansas Farmer.

Corn sold rather slowly. There were plenty of bids of 25c, but holders wanted a little more than that. Most sales were about ¼c lower than Saturday's prices. No. 3 corn sold a cent lower.

Receipts of corn to-day, 41 cars; a year ago, 10 cars.

Sales by sample on track, Kansas City: No. 2 mixed corn, 2 cars 25½c, 4 cars 25½c; 2 cars 25c; No. 3 mixed, 4 cars 24c, 1 car 24½c; No. 4 mixed, nominally, 22c; no grade, nominally 20c@22c; No. 2 white, 2 cars 25½c, 2 cars 25c, 1 car 24½c; No. 3 white, 1 car 25c, 1 car 24½c.

Oats were about a cent lower, and sold very slowly, with a good many on sale. Prices varied a good deal because of billing.

Receipts of oats to-day, 45 cars; a year ago, 22 cars.

Sales by sample on track, Kansas City: No. 2 mixed oats, 4 cars 17c, 2 cars 16½c, 1 car 16c, 2 cars 15½c, 1 car 15c; No. 3 oats, 1 car 14½c, 1 car 14c, 2 cars 14c; No. 4, nominally 12c@13c; no grade, nominally 10c@11c; No. 2 white oats, 2 cars choice early, 19½c, 1 car 19c, 3 cars 18½c, 1 car 18c; No. 3 white, 1 car early, 18½c, 1 car 18c, 2 cars 17½c, 1 car 16½c, 1 car 16c.

Hay—Receipts, 84 cars; market steady; timothy, choice, \$11.00. No. 1, \$10.00; No. 2, \$8.00@9.00; fancy prairie, \$6.50; choice, \$5.50@6.00; No. 1, \$4.50@5.00; No. 2, \$4.00@4.50; packing hay, \$3.00@3.50.

Kansas City Produce.
KANSAS CITY, Oct. 7.—Butter—The market is steady at quotations; extra fancy separator, 20c@20½c; fair, 17c@18c; dairy fancy, firm, 14c@15c; store packed, fresh, 9c@11c; off grades, 7c@8c.

Eggs—Strictly fresh candied stock, 13c per doz.

Poultry—Hens, 6c; springs, 6½c@7c; roosters, 15c. Turkeys, 7½c@8c; spring turkeys, over 8 lbs., 8½c; under 8 lbs., not wanted in this market. Ducks, 7c@8c. Geese, not wanted, 3½c@4c; springs, 7c. Pigeons, \$1.00 per doz.

Fruits—Apples—Cooking apples sell from 15c@25c per bu.; choice eating apples sell from 30c@40c; fancy, \$1.00@1.50 per bbl.; common to good, 50c@75c per bbl.; home grown stock sells a little higher in a small way. Grapes—Pennsylvania, New York and Ohio Concord, 9-lb baskets, new stock, fancy, 20c@22½c; poor stock nearly all cleaned up and sells at from 10c@18c; wild grapes, 10c@1c per peck. Peaches—Home grown, 35c@45c per peck; Michigan stock \$2.00@2.25 per bu.; 40c per 1-5 bu. basket; Missouri stock, trays, 75c; ½ bu. box, 75c; 6-basket crate, \$1.50. Pears—Kiefer, 50c per peck. Cranberries, \$7.00@7.50 per bbl.

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Kansas City, Mo., Stock Yards.
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A. T. MUSTON, CATTLE
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174 South Water Street, CHICAGO, ILL.
References: Metropolitan National Bank, Chicago, and this paper.

THE STRAY LIST.
FOR WEEK ENDING SEPT. 25, 1895.
Pottawatomie county—Frank Davis, clerk.
HORSE—Taken up by Ed. Atkinson, in Union tp., September 12, 1895, one dark bay gelding, 12 years old, fourteen hands high, small white spot in forehead; valued at \$15.
Russell county—Ira D. Fleck, clerk.
FIVE CALVES—Taken up by J. A. Householder, in Lincoln tp., P. O. Russell, September 13, 1895, five calves, about 5 or 6 months old, as follows: Three black heifers, one red heifer and one red steer; no marks or brands; valued at \$25.
Cherokee county—P. M. Humphrey, clerk.
HORSE—Taken up by P. Curtis, in Garden tp., one iron-gray horse, fifteen hands high, 3 years old, scar on right knee supposed to be wire cut, ring-bone on both hind feet; valued at \$15.
MARE—Taken up by Riley Wright, in Lowell tp., one bay mare, 4 years old, branded F on left hip, white on right hind foot; valued at \$15.

FOR WEEK ENDING OCTOBER 2, 1895.
Labette county—J. F. Thompson, clerk.
MARE—Taken up by John Byrum, in Howard tp., August 15, 1895, one black mare, fourteen hands high, star in forehead; valued at \$10.
HORSE—By same, one iron-gray horse, blaze face; valued at \$7.
Bourbon county—G. H. Requa, clerk.
MARE—Taken up by C. E. Shaffer, in Freedom tp., one black mare, 4 years old, about fifteen and one-half hands high, star in forehead, and what seems to be a wire cut on right fore leg below knee; valued at \$25.

FOR WEEK ENDING OCTOBER 9, 1895.
Coffey county—T. N. Bell, clerk.
HEIFER—Taken up by U. S. Grant, in Pleasant tp., September 23, 1895, one light red yearling heifer, small white spots on belly, crop off left ear, dehorned; no other marks or brands.

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The Poultry Yard

WAR ON LICE.

Editor Kansas Farmer:—It may seem strange to some, for a man like myself, who has had so much to say about how to keep down lice in the poultry business—through the press—to now write of having to make war on them, but circumstances sometimes make changes.

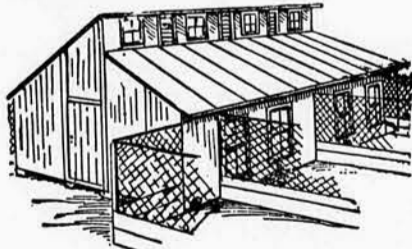
Things may be just so that we cannot put into practice what we preach. That was the case with me. It came about in this way: Through May and June, my aged father was sick, so much so that it took all my time to care for him, until his death, July 5. Then my farm work was so far behind that I had to look after it, so all this time, the very worst time of the year, my birds had to look after themselves. After I had got things a little caught up, I was passing through my henry one day, and happened to put my hand on the roost. I felt something crawling on my hand. I looked, and behold, my hand was just covered with lice. I looked on the roosting-poles and they were just covered with red mites. Now my roosts are fixed so that they do not touch the building, so there was no chance for the lice to get to the building. I commenced to prepare for war at once. I took my oil can and gave the lice on the poles a dose, then I prepared my kerosene emulsion, by putting a half gallon of water on the stove. In this I put a bar of soap. When the water was boiling and the soap dissolved, I took it off the stove and put in a quart of coal oil. I stirred this for half an hour, so as to get the oil and water well mixed. I caught my birds all up that night, and the next morning warmed five gallons of water, just a little warm, and in this I put the emulsion, and stirred this well. I then took each bird and dipped it, and kept stirring the water, so that if there was any oil that was not well mixed it could not come to the top. I moved the roosts out of the henry, cleaned things up and shut the door, and "Biddy" had to look for other quarters for a roosting-place. I got rid of the mites very successfully.

Stark, Kas. J. R. COTTON.

POULTRY-HOUSE PLAN.

Its Designer Claims That It Has Always Given Satisfaction.

I send you herewith a drawing of the handiest and best all-purpose poultry house I know of. It is a medium-sized house, 28 feet long and 20 feet wide, with hall 4 feet wide running lengthways through the center. It is large enough to house eight different breeds of poultry in the breeding season with from ten to twelve fowls in each pen. The house is divided up in eight rooms, four on each side of aisle, leaving 7x8 feet for each room. The 6x6-inch sills can be used laid on stone or blocks set in the ground. Use 4x4s for up-and-down studding spiked on top of sill 2½ feet apart. Use 2x6s for floor joist, 20 feet long, spiked to up-and-down posts. Floor with common inch flooring. The center posts, 4x4s, are spiked on top of sills 4 feet apart each way, leaving a 4-foot aisle through center of house. The plates on top of posts are 2x4s and the rafters 2x4s. For siding, drop siding is best. The roof is sheeted and shingled. The inside of house should be plastered with cement plaster. When plastered it is easy to rid of lice or mites that so much infest cracks in hen houses, and the plastering can be easily white-washed and swept off clean.



VIEW OF POULTRY HOUSE.

The partitions and inside doors should all be wire poultry-netting fastened on strong frames so that all can be removed when the breeding season is over and the whole house be used in one or two parts, one on each side.

There should be no roosts to perch on where the large breeds are kept. The floor covered with straw three or four inches thick makes the best roost for large breeds; they will do better and never have bumble foot. The straw should be swept out once a week and fresh straw supplied.

Almost any sized windows can be

used. The upper windows are half the lower size. No more windows should be used than the diagram shows, as too much glass light is injurious to poultry.

The yards outside should be 10 feet wide and at least 100 feet long. To get four yards 10 feet wide on each side of house the corner pens must be brought out 6 feet on each corner of house. This leaves 4 feet of house for each of outside pens. These pens should also be bedded with straw or litter of some kind from 3 to 5 inches deep, and all grain fed should be strewn in this to make the hens work most of their time. The same plan is also the very best for a hog house, except that half windows are used below. I have a house of this kind on my farm and it gives perfect satisfaction.—T. E. Orth, in Breeders' Gazette.

Selling Eggs by Weight.

Until the time arrives when eggs are sold by weight, both the poultryman and the consumer will be cheated. The consumer who buys his eggs by the dozen never pays the same price. He has the advantage to-day and loses it to-morrow. When the prices paid are based on weight, the sales can be as easily made as with potatoes, which are now sold by weight when sales are made wholesale, though retail purchasers often pay dearly for allowing deliveries based upon bushel measures that have slippery bottoms, all in which the articles are "artistically arranged," with a view of filling the measure with the fewest potatoes.—Farm and Fireside.

Poultry in the Barnyard.

It is best to give the hens free range, but they should never be allowed in the barnyards and stables, as it is as important to have a place for the hens as for the horses and cattle. It is not creditable to farmers that their hens lay in the horse troughs or hay-mows. If the poultryhouse is clean, and suitable nests are provided, there is no necessity for the hens laying elsewhere. In favor of the hens, it may be mentioned that they often resort to the barn because the poultry-house is infested with lice. The barn yard, however, is not the place for poultry, but for larger stock.—Farm and Fireside.

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SAVED BY A DREAM. Farmer Oak setting posts for Page fence is set upon by another agent, with a machine to "make it yourself, just as good," etc., etc., who soon talks him to sleep. He dreams he's back at the World's Fair, almost famished, can't live without a good cup of coffee, quick. Meets stranger with machine. "You buy the green berry, anything cheap, roast carefully grind in this: p-e-r-f-e-c-t-l-y d-e-l-i-c-i-o-u-s." "Oh, yes, of course, you must steep it, and sugar and cream it, takes a little time, but it's so cheap." Here the nightmare kicks the agent off the bed and brings farmer O. to his senses, and he'll use the Page. **PAGE WOVEN WIRE FENCE CO., Adrian, Mich.**

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METAL WHEELS for your WAGONS. Any size you want, 20 to 60 in. high. Tires 1 to 8 in. wide—hubs to fit any axle. Saves cost many times in a season to have set of low wheels to fit your wagon for hauling grain, fodder, manure, hogs, &c. No resetting of tires. Cost free. Address **EMPIRE MFG. CO., Quincy, Ill.**

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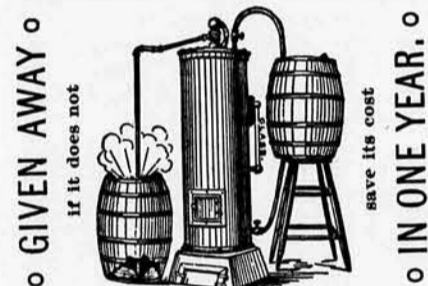
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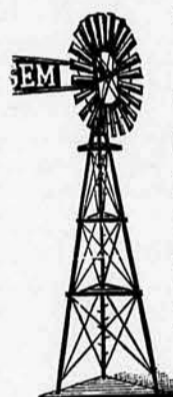
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(Continued from page 1.)

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