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STEERS FED FOR BEEF AND FOR GROWTE.

The experiments on this subject at several stations are discussed below under the following heads: (1) Feeding steers of different breeds, (2) feeding for fat and for lean, (3) age as a factor in determining the cost of gain, (4) sheltering beef cattle, (5) whole corn, corn meal and corn and cob meal, (6) cotton hulls, (7) feeding grain to steers at pasture, (8) hay vs. straw, and (9) miscellaneous.

(1) Feeding steers of different breeds.—The Maine station (R. 1890, p. 71) compared the relative gains during 233 days of Holstein, Short-horn, and Hereford steers, all between five and eight months old. The Holsteins made an average daily gain of 1.78 pounds, the Short-horns 1.63 pounds, and the Herefords 1.51 pounds per head. In two experiments in growing Short-horn, Galloway, Holstein, Jersey, Hereford, and Devon steers from calves to maturity the Michigan station (B. 44, p. 69) observes no breed differences affecting the cost per pound of gain. The age and "type" of the animals seemed to be the controlling factors. Those of the "meat type" of stocky form, made more economical gains than those of the "dairy type."

The Ontario (Canada) station (B. 70) compared grades of Galloway, Short-horn, Aberdeen-Angus, Hereford, Devon and Holstein breeds with natives all under two months, old at the beginning of the test, for a period of one year. The largest profit was with the Galloway. The grades were valued by an expert at from 4.75 to 5.5 cents per pound live weight while the native was valued at only 3.75 cents.

(Ill. R. 1886, p. 216; Mich. B. 24, B. 30; Miss. B. 8.; N. Y. State R. 1889, p. 186, R. 1890, p. 20.)

(2) Feeding for fat and for lean, nitrogenous vs. carbonaceous ration.—The theory has been advanced that the relative production of fat and lean meat can be largely influenced by feeding. Experiments bearing on this question have been mainly with pigs, but two are reported with cattle. At the Missouri college (B. 27) Prof. Sanborn fed calves on a ration containing different proportions of proteine (nitrogenous material). The nutritive ratio (ratio of nitrogenous to non-nitrogenous nutrients) of the food of one lot was 1:2.4 (narrow) and the other lot 1:5.5. Both lots gained practically the same amount in weight, but the character of the growth was quite different. There was nearly one-fourth more fat on the intestinal and vital organs of the lot on the wider ration (1:5.5) than in case of the other lot. "The meat of Lot 1 [ratio 1:2.4] was distinctly more fibrous in character and showed a denser fiber without the light streaking of fat." In a trial with two-year-old steers at the Pennsylvania Agricultural college (R. 1886, p. 227) an increase in the amount of proteine fed "does not seem to have increased the nitrogen in fresh muscle."

The New York State station (R. 1889, p. 117) compared rations with a wide nutritive ratio (carbonaceous) and a narrow ratio (nitrogenous), the difference in proportion of nitrogen or proteine being brought about by substituting a part of the corn meal in the carbonaceous ration with cottonseed meal, linseed meal, or gluten meal. "In general appearance the lot fed the nitrogenous ration was much the better, having a cleaner, brighter coat of hair. The photographs of the meat show little if any difference in the proportion of fat and lean." The meat of the animals fed on the carbonaceous ration (corn meal largely) was thought to be "much the tenderer and sweeter."

The Arkansas station (R. 1890, p. 134) found "no difference in appearance between the lot fed cottonseed meal and hulls, and the lot fed corn and pea-

vine hay, and no detrimental effects from the cottonseed products fed the animals."

(3) Age as a factor in determining the cost of gain.—In the case of steers, as in that of pigs, the cost of producing a pound of gain increases with the age and weight of an animal. This emphasizes the demand for early-maturing animals for profitable fattening. On this point the Massachusetts State station (B. 40, R. 1891, p. 110) found that two-year-old steers consumed nearly twice as much food per pound of gain in weight as yearlings. Taking the value of manure into account, the net cost of food per pound of gain was 24 to 3 cents with the yearlings and 4 1/2 to 4 1/2 cents with the two-year-olds. The same was indicated by trials at the Pennsylvania Agricultural college (B. 10), but in a repetition of the trial the following year the cost of gain per pound was practically the same for two-year-olds as for three-year-olds (R. 1886, p. 179).

The Michigan station (B. 69) reports age as the "all-controlling circumstance that decides the rate of gain. The ration necessary to sustain the gain increases with age. * * * The superiority of beef breeds is largely in their early maturity," (Mich. B. 44).

At the Wisconsin station (R. 1886, p. 44) a lot of steer calves from four days to four weeks old were fed for two years. At current prices the cost of food per 100 pounds of gain in weight was \$4.19 during the first period, 308 days, and \$6.13 during the second, 422 days (see also Wis. R. 1888, p. 91).

(4) Sheltering beef cattle.—At the Iowa station (B. 6) the cost of making 100 pounds of gain in live weight was \$3.89 for barn-fed steers, and \$5.10 for steers fed the same food in the yard with only an open shelter. The barn-fed steers ate 1,184 pounds dry matter and the yard-fed steers 1,361 pounds of dry matter for each 100 pounds gained.

At the Texas station (B. 6) the cost of gain under shelter and out of doors was compared during January, February and March, the same food being fed to both lots. For every 100 pounds gained, the cost of food eaten was \$4.17 with the sheltered steers and \$6.83 with those out of doors.

At the Utah station (B. 11) steers kept out of doors ate considerably more food than those fed in the barn. Blanketing steers in the barn was found to be of no advantage.

(5) Whole corn, corn meal, and corn and cob meal.—As to the value of grinding corn for steers, in a trial at the Missouri Agricultural college (B. 2) steers made much better gains on corn meal than on whole corn. At the Virginia station (B. 10) the results agreed with this, whether silage or hay was fed as coarse fodder. Allowing the same price for whole corn and corn meal (\$20), the average cost of food per pound of gain ranged from 7.35 to 9.35 cents for the corn meal lots and from 9.3 to 17.5 cents for the whole corn lots. Allowing one-seventh for toll for grinding the corn, "the balance is still much in favor of the meal-fed lot."

Two experiments on the subject made at the Wisconsin station (R. 1888, p. 91) were contradictory. The results of one experiment favored corn meal and those of the other whole corn, though the advantage was slight in either case. When hogs ran in the pasture with the steers the combined gains of the hogs and steers were favorable to whole corn in both trials.

A comparison of whole shelled corn with corn and cob meal was made at the Iowa station (B. 6), feeding each with corn fodder to two steers. Valuing shelled corn at 38 cents, corn and cob meal at 34 cents per 100 pounds and corn fodder at \$2.50 per ton, "shelled corn produced gain more cheaply than corn and cob meal," and at a smaller consumption of dry matter per pound of gain. (See also Tex. B. 6).

Corn and cob meal was compared with coarse ground corn meal at the Kansas station (R. 1885-1886, p. 101) with a result quite favorable to the corn and cob meal. About the same amount of each meal was eaten, but the lot on corn and cob meal gained the most. The gain in weight from a bushel of ground corn with its cobs was 9.56 pounds and from a bushel of ground

shelled corn 7.04 pounds. The author believes the result shows corn and cob meal to be worth more, pound for pound, than corn meal, for steers.

At the Texas station (B. 2, R. 1888, p. 19) steers gained slightly less on coarse ground corn than on the same amount of corn ground with the cobs and husks, although it was considered doubtful whether the extra gain would pay for grinding the cobs and husks.

At the Maine station (R. 1887, p. 93) "the substitution of cottonseed meal or linseed meal for a portion of the corn meal of a moderate ration diminished the cost of production."

At the New York State station (R. 1889, p. 117) the substitution of cottonseed meal, linseed meal or gluten meal for a part of the corn meal of a ration "was not followed by any advantage so far as the increase in live weight indicated," although the general appearance of the lot so fed was superior to that of the lot fed corn meal.

(6) Cottonseed hulls are fed to steers quite commonly in the South in connection with cottonseed meal. The ration ordinarily fed to a steer of 700 to 1,000 pounds is from fifteen to twenty pounds of hulls and from four to eight pounds of cottonseed meal per day. An experiment made at the Texas station (B. 6, R. 1889, p. 111) indicated that hulls had a higher nutritive value than corn silage. In another experiment at the same station (B. 10) the addition of silage to a ration of cottonseed meal and hulls increased the total gain, but did not change the cost of gain per pound. As compared with hulls, steers fed on silage gained 2.54 pounds per day and on hulls 2.29 pounds, cottonseed meal being added in each case. The cost of food per 100 pounds of gain with hulls at \$3 and silage at \$2 per ton, was \$3.83 on silage and \$3.73 on hulls, indicating that silage causes a more rapid but a more expensive gain than hulls. The addition of hay to a ration of cottonseed meal and hulls increased the total gain and also increased the cost per pound of gain. A half pint of molasses per day caused an increased consumption of cottonseed meal and hulls, and consequently a more rapid gain.

At the North Carolina station (B. 81) four steers fattened on cotton hulls and cottonseed meal made an average gain of 148 pounds each in eighty-four days, at a cost of \$7.25. The net profits for the feed ranged from \$6.89 to \$10.57 with different animals. A comparison at the same station of the effect of adding corn fodder and silage to the ration of cotton hulls and cottonseed meal showed little difference in the gains, although the best financial result was from adding the fodder or silage.

A bull stag of 880 pounds fed at the same station in summer on cotton hulls and meal gained 141 pounds, at a cost of \$5.24, leaving a fair profit. From its experiments the station concludes that steers do best when about one pound of cottonseed meal is fed to each four pounds of cotton hulls. (Ark. B. 9, R. 1889, p. 78, R. 1890, p. 134; N. C. B. 80c.; Tex. B. 15, R. 1889, p. 107.)

(7) Feeding grain to steers at pasture.—Two trials made at the Missouri college (B. 8) of feeding a daily ration of four pounds of meal or shipstuff to steers on good pasture resulted in a financial loss. The results of two years' trials at the Illinois college (B. Sept., 1885, R. 1886, p. 211) indicated "that a grain ration fed to young steers on a good pasture is not usually profitable. * * * It is doubtful if at present in most parts of Illinois cattle can be maintained or an increase of weight be secured at so low a cost in any other way as by allowing them to get all their food during the best of the grazing season from good pastures, fully, but not overstocked." An experiment on this subject at the Maine station (R. 1888, p. 22) was a failure.

(8) Hay vs. straw.—An experiment at the Maine station (R. 1886, p. 73) indicated that steers made a cheaper gain on oat straw (at \$6 per ton), with a little cottonseed meal and corn meal, than on mixed hay (at \$14), with corn meal, although the hay-fed lot gained slightly more.

In another trial at the same station (R. 1887, p. 89) the gain in weight was

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nearly a pound more per day per steer on ten pounds of hay than on twelve pounds of oat straw, feeding the same grain ration in both cases. The total cost of food per pound of gain was also more on the straw ration.

(9) Miscellaneous experiments with steers.—A short experiment at the Minnesota station (R. 1888, p. 123) resulted favorably to bran as compared with corn. "Part bran instead of all corn as a grain feed to supplement corn silage proved the better for fattening steers."

At the Missouri college (B. 2) "crushed corn fodder gave as good results, when grain was fed in moderate quantities, as hay." In a number of trials at the same place (B. 11) less clover hay and straw than of good timothy hay was required for a pound of gain. In a comparison of timothy hay cut when in full bloom and after the seeds were quite fully formed, the amount of digestible matter in hay consumed per pound of gain in weight was 3.18 pounds of late-cut and 3.30 of the early-cut timothy, indicating "practically no difference in the feeding value of the two lots of hay."

The Tennessee station (B. Vol. IV, 1) found that steers did not eat second-crop clover hay as readily as first-crop hay, and gained only one-sixth as much in weight as on first-crop; in other words, they could not be induced to eat much more than a maintenance ration of it. In a trial at the Indiana station (B. 37) steers made a much more rapid growth on cut than on uncut clover hay.

At the Minnesota station (B. 4, R. 1888, p. 126) steers were more thrifty on cold than on heated water.

(Ark. B. 9; Mass. State B. 40, R. 1891, p. 107; Miss. R. 1889, p. 36; N. Y. State R. 1889, p. 186; Pa. R. 1888, p. 77; Va. B. 3; Wis. R. 1886, p. 61.)

Work oxen fed for beef.—A trial at the Alabama Canabrake station (B. 8) of fattening work oxen on hay, corn meal, cotton seed and cotton hulls resulted in a financial loss.

At the Maryland station (B. 8) two work oxen made profitable gains on corn meal, cottonseed meal, hay, rye straw and molasses, gaining 600 pounds in 116 days. The calculated profits from the transaction, reckoning the food at current prices and allowing for the manure produced, was \$33.42, or a net profit of 15 per cent. on the investment in four months.

Four oxen were fed at the North Carolina station (B. 81) to compare cotton hulls with corn silage, feeding cottonseed meal with each. "In this experiment silage at \$1 per ton would about equal cotton hulls at \$2.50 per ton, without cost of transportation."

Five World Beaters.
"SICKLES" BRAND HARNESS.
All genuine stamped with this "Trade Mark." Made in five styles at \$6.50, \$9.00, \$10.00, \$15.00 and \$25.00 per set complete. The best harness for the money on the market. Ask your harness dealer for them. Manufactured only by J. B. Sickles Saddlery Co., St. Louis, Mo.

Agricultural Matters.

THE ARMY WORM.

The United States Department of Agriculture has just published a circular descriptive of the army worm and remedies and natural enemies. This destructive pest has never done much harm in Kansas, and yet it is well to be fortified with such information as is available. We here omit the description and begin with

REMEDIES AND PREVENTIVE MEASURES.

There is never any demand upon this office for remedies for the army worm until it is almost too late to do any immediate good. There are certain old-time measures which may be adopted to protect certain fields from advancing armies, like the plowing of a furrow with its perpendicular side towards the field to be protected and the subsequent dragging of a log through the furrow to keep the earth friable and kill the worms which have accumulated in the ditch, and another is the sprinkling of a strip of pasture or field crop in advance of an army with Paris green or London purple in solution. In fields which the caterpillars have already entered there is little which can be done for their destruction which does not also involve the destruction of the crop. The fields may be sprinkled by means of a broadcast sprayer with an arsenical solution, or they may be rolled with a heavy roller where one is at hand and the ground is level, or a flock of sheep may be sent in which will result in crushing most of the worms by trampling.

In the great majority of cases, however, these latter measures are unnecessary, for the reason that nature herself almost always takes a hand in the reduction of the excessive numbers of the insect, either by unfavorable weather conditions or by the excessive multiplication of natural enemies and parasites, so that it is extremely rarely that we hear of one army-worm outbreak immediately following another.

In general, therefore, it may be said that as soon as the worms are discovered to be exceptionally numerous in a given field (and, as a matter of fact, they are at first almost invariably restricted to the immediate neighborhood of some definitely limited permanent breeding place), all energies should be devoted to the protection of the surrounding crops by the means mentioned above, and the destruction of the worms in the fields first attacked may be safely left to the last.

There are many localities in which the army worm is never seen, or, rather, is never known to be injurious, and these localities owe their exemption undoubtedly to the unconscious use of preventive measures. Clean cultivation, rotation of crops, cleaning up fence corners, close pasturage, the burning over of waste grass land in spring or fall are all preventive measures of great value, since, where these methods are in vogue, the army worm will never be able to get a migratory start, or, in other words, it never becomes so abundant as to necessitate migration.

Bearing in mind the fact that the insect breeds normally in rank grass, such as is usually found along the edges of swamps (not in swamps, for the insect must have comparatively dry earth in which to pupate) or in accidentally over-fertilized spots in pasture lands, and that it feeds normally only upon the true grasses, the farmer who has once suffered from army-worm attack may easily prevent its recurrence by winter burning or by rotation and clean cultivation.

In cases where the worms have already entered a valuable field of wheat before the farmer has become aware of their presence and too late to render ditching of any avail, some little good may be accomplished if the majority of the worms are full grown, or nearly full grown, by the old method of "dragging the rope." Two men, each having hold of the end of a long rope, are sent through the field and the rope is dragged over the heads of the grain. The backward jerk of the stalks jars the caterpillars to the ground, and they are unable to ascend to the heads

again for some little time. This is a laborious process, however, and has to be repeated almost immediately. It is only to be undertaken where the number of worms in a field is comparatively small and where these are, as before stated, full grown or nearly full grown, since in this case they will stop feeding and enter the ground in a day or two.

NATURAL ENEMIES.

There is almost no prominent injurious insect in whose economy natural enemies play a more important part than the army worm. We have said above that in the great majority of cases actual destructive measures against army worms which have once taken full possession of a grass field are hardly necessary. This is because of the fact that generally not more than one worm out of a thousand escapes death from parasitic or predaceous insects. Where the army worm follows its normal habit and feeds only at night, remaining hidden during the day under the surface of the ground at the base of some tuft of rank-growing grass, it is protected from these natural enemies, but when the migratory instinct drives it forth and perverts its normal habit, causing it to march unprotected during the day, the swift-breeding tachina flies attack it at once, multiply most rapidly, and in connection with its other parasites and with the predatory ground beetles, reduce its numbers once more to the non-injurious point. We have said this is generally the case; there may be exceptions, but we have never seen one. It is important, however, for the farmer to be able to recognize the appearance of a parasitized worm, as in this way his confidence in the future may be restored.

The eggs of the red-tailed tachina fly are white, oval, less than one-sixteenth of an inch long, and are glued fast to the skin of the caterpillar, usually on the back of the front segments. From half a dozen to fifty or more of these eggs may be attached to a single caterpillar, and from each hatches a maggot which penetrates the body of the army worm and ultimately destroys it, unless the caterpillar should happen to cast its skin so soon after the eggs are laid that they do not have time to hatch. The adult tachina fly resembles a rather large house fly, except that it has a red tip to its abdomen. Hundreds and thousands of these flies are usually seen buzzing about a field infested by the army worm, and their presence should be welcome to the farmer.

The extent of the parasitism of the injurious brood of the army worm may be indicated by two instances from our personal experience. In 1880 we visited a large tract of land planted in timothy grass, in the vicinity of Portsmouth, Va. A search for hours during the hot part of the day failed to show a single worm which did not bear tachina eggs. In 1882 we visited wheat fields in the vicinity of Huntsville, Ala., which were then being overrun by this insect. Here, although a number of worms were noticed which did not bear tachina eggs, they were destroyed by ground beetles to such an extent that when we attempted to catch an adult moth a little later in the season by means of trap lanterns and sugar, we were unable to secure a single specimen. The entire army had been annihilated, and it is worthy of remark that in neither of these localities has the army worm ever been seen since in injurious numbers, although fourteen years have elapsed in the one case and twelve in the other.

More Facts About Crimson Clover.

Any well-drained soil will do, but it is not favorable if there be hardpan too near the surface. The plant is an annual; when the seed ripens it dies. Seed should be sown, 10 to 15 pounds per acre, in July, August or September, and harrowed or brushed in lightly. If weather and soil be dry, roll; if very dry, roll hard. The crop matures here for hay or green feed, early in May; for seed, in June.

Sow in corn or any truck at the last working. Backwheat is the best nurse crop for it; tomatoes are very good. Any slight shade protects the young

plants, though it is most largely sown by itself. Italian rye grass seed may profitably be sown with it, one bushel per acre, increasing the weight of crop, and holding the clover up, as it is liable to grow so heavy on good soil as to fall down. It is not well adapted to spring sowing.

It is a weed-killer; makes the best of hay, green feed and ensilage, and improves the soil in all cases, whatever use is made of it. I have never heard of a case where any ill effect resulted from plowing it under, as practiced by Mr. J. H. Hale, of Connecticut; on the contrary, its good effects have been proclaimed everywhere it has been tried.

All inquirers ask where seed can be obtained. Of course, I grow the seed and have some to sell, but all farmers should buy from their local dealers if prices are reasonable, and they can be assured of getting fresh, clean, domestic seed from the acclimated plant, and free from the "clover cancer" that is found in the imported seed. This seed deteriorates with age more rapidly than that of the common clovers, and should not be used if older than the crop of the previous year.—E. H. Bancroft, in *Rural New Yorker*.

The Electrical Transmission of Energy.

Graduation thesis, by John E. Taylor, of Berryton, Kas., at Kansas State Agricultural College commencement, 1894.

Ever since man made the first machine, it has been an important problem of the human race how to transmit to machines the energy necessary to drive them, and at the same time to do so most easily and with the least possible waste of energy, thus giving the greatest mechanical efficiency and economical working.

The earliest forms of transmission of energy were as primitive and crude as the machines driven, but as man gained by experience, and as he felt more and more the need of machinery, and consequently the transmission of energy, both the machines for utilizing the energy and its mode of transmission have passed through an upward development.

Transmission of power to any considerable distance had been practically impossible until this century, when wire ropes came into use for such purposes. Under the most favorable conditions these were able to transmit power half a mile or a mile, but with an enormous waste of energy, so much so as to render the method very expensive. In later years the invention of the dynamo and motor led to their experimental use for this purpose. They proved to be satisfactory, with one serious exception—their efficiency was too low; there was too great a waste of power. Of the original power from the engine only one-fourth, or even less, was obtained from the motor.

Dynamos and motors offered an inviting field to experimenters and investigators, however, and consequently their improvement and development were rapid, so that they soon ceased to be mere scientific toys and began to come into practical use, yet still their lack of economical working was felt to be a serious defect.

In no class of mechanical appliances has there been such rapid, such phenomenal growth as in the electrical, and those appliances came rapidly to the front. As a result, we soon had dynamos which gave us back as much as 95 per cent. of the energy put into them, and motors had a like efficiency. It costs a certain amount of money to supply fuel to the engine which drives the dynamo, and if we can make the dynamo give us ninety-five electrical horse power, where it only gave fifty before, we have reduced the cost of electricity 46 per cent., which you can readily see will generally decide whether or not it shall be used. It is this reduction in cost, due to an increased efficiency of the dynamo, that has led to their general employment.

Hand in hand with this development has gone the improvement of the incandescent lamps. Where a few years ago a certain amount of electrical energy gave us 128 lamps, it now gives us 298, or two and one-third times as great a return.

As a summary, we can say that long-distance transmission of power was at

first extremely limited; later it could be accomplished at a cost of from one-half to three-fourths of the original energy, and now can be accomplished with a loss of only 15 per cent., and where heretofore we could get only thirty lamps for a certain expenditure of power, we can now get 150 for the same expenditure.

This is what has been done: what will be done, no man knows.

Geological Conditions Affecting the Purity of Water.

Graduation thesis, by F. W. Ames, of Riley, Kas., at Kansas State Agricultural College commencement, 1894.

The subject of health, its preservation and its restoration, is one that, in all civilized communities to-day, demands the attention of many of our clearest and ablest thinkers. Investigating the causes, the cures and the preventives of disease, we find scores of our brightest intellects zealously laboring for the improvement of science and the welfare of mankind. One of the prominent branches of investigation demanding their attention is the drinking water of a community. This article, one of the most essential and important of human requirements, is an excellent medium for the transference of bacteria. And it is generally conceded that the germs of contagious diseases are readily propagated as well as conveyed in water.

None of the waters as found in nature can, strictly speaking, be called pure. When tested by a chemical analysis all are found to contain more or less of substances which, in their ordinary conditions, are either solids or gases. From this fact, however, we must not infer that all natural waters contain injurious materials, for many of the ingredients are actually beneficial and, as in the case of the so-called "mineral springs," possess active medicinal properties. These foreign materials are held in suspension in the water or are there in solution and in character are either animal, vegetable or mineral. Rain water is the nearest pure, while surface water, or that obtained from streams and lakes, is usually the most polluted. Intermediate between the two is the ground water which we get from the shallow wells, and which, though very common, is not always the most healthful. But the most satisfactory class is known as deep-seated water, or that coming from deep wells, artesian wells and springs. From such sources we get water that has been thoroughly filtered of all those injurious ingredients common, and necessarily present, in a great proportion of our surface waters. On the other hand, we here find present, usually, more mineral compounds in solution. In some cases this may be detrimental, though more frequently the "mineral spring," because it contains an unusual proportion of some compound, is a valuable agent in the curing of certain classes of disease. Noted examples of such are the hot springs of Garland county, Arkansas. There more than 100 springs, varying from 90° to 148° in temperature, may be seen pouring out an inexhaustible supply of valuable mineral water. Saratoga springs, of Saratoga county, New York, may be mentioned as another famous example of medicated water coming from deep in the earth. There are many hundreds of similar and equally valuable mineral springs scattered throughout this country, and the especial geological characteristic which I wish to mention in connection with them is that they are always found in rough and broken country. Always in those sections where the earth's crust has been disturbed and folded, thus bringing strata from deep down in the earth to an elevation such that erosive actions in time bring them to the surface. But the important fact to be noted is that the most healthful of ordinary waters are also found in these same rough and disturbed sections of the country.

Leasing Oklahoma School Lands.

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

THE APPRECIATION OF GOLD.

The following paper was read by Mr. J. M. Emerson before the members of the National Association of British and Irish Millers, at the Belfast convention on Thursday, July 5:

Mr. PRESIDENT AND GENTLEMEN:—In reading a paper upon so important, so complex, and so far-reaching a subject as the appreciation of gold I feel sure I may claim your kind indulgence if I am not able to deal with the question with the ability and clearness it demands. To most of you I am personally known, and, therefore, it is scarcely necessary to say I am neither a professor of political economy nor an authority on finance. I have no wish to pose as such; I am simply an inquirer, anxious and open to learn.

Last year, when we met at Liverpool, I ventured to express the conviction that low as the price of wheat then was we should have a still further fall in the event of the American government discontinuing the coinage of silver, and of the closing of the Indian mints. America ceased to coin silver, India closed her mints, and the price of wheat has fallen.

We are asking to-day, Will there be a further decline in the price of wheat before the bottom is reached, and is there a probability of a higher level of values in the future?

Before attempting to explain in detail the cause of the fall in wheat, it may be well to look around and see what has happened to other commodities. Have they also fallen? Have they any special and particular cause for depreciation in value, or are they and wheat alike affected by one great cause?

The depression and blight that have been falling on trade in general, in this and

silver is of necessity dependent upon chance discoveries and the richness or poverty of the mines, the supply of the gold and silver money, on the other hand, is regulated by the legislative enactments governing the mints. If the mints of the world are open to the free coinage of gold and closed to silver, the money of the world will be limited to the amount of gold supplied by the mines. What is the consequence? Gold is bound to appreciate in value and silver will go down, and of course if, on the other hand, the mints were closed to gold and open to silver then silver would appreciate and gold go down. But if the mints of the world are open to free coinage of both gold and silver, the supply of money will be limited only by the full production of the mines. The relative value of gold and silver will not change, because the demand for both will be equal.

Again, if the nations of the world by legislation divide themselves into two sections, the one using gold and the other silver money, that section, other things being equal, which has the greater supply of money, be it gold or silver, will have the advantage in the competition of production and manufacture over the section that has the lesser supply of money. In the one case there will be prosperity, in the other adversity.

Gentlemen, my intention is to show when I come to prove the truth of these propositions, that, owing to the legislation of recent years demonetizing silver, England and the nations which have adopted, for the first time in history, a gold standard, have, owing to the limited supply of that metal, as compared with their monetary requirements, placed themselves at a disadvantage with silver-using nations, and that it is impossible for the former long to

other country. But a time comes when Germany says: "England uses red wheat only; England is a prosperous country; we will use red wheat." By an act of legislation the German government not only compels the use of red wheat only, but orders the immediate export of all white wheats. This at once creates a drain on the supplies of red wheat, causing it to rise in value and lessening the demand for white wheat and lowering its value. Their relative values, which had previously varied but little, now begin to visibly widen. But when the prohibitive legislative interference of Germany is immediately followed by similar legislation in France, Belgium, Italy, Greece and other continental nations, and when America limits the consumption of white wheat to very meagre proportions, what then do you suppose would be the price of red wheat in England? And what the famine price of bread in all countries which had passed such quixotic legislation?

This boycotted, discarded white wheat would find its way to India and the east; and while the price of bread in the highly intelligent legislated-for nations of the west would be probably 2s. per loaf, the poor ignorant Indian and Chinese would be in the pitiable plight of having to eat bread, equally good, but at the cost of only a penny per loaf.

Do you suppose for one moment that it would be possible for producers and manufacturers in countries where bread was 2s. per loaf to compete with their products in the markets of the world with the products of the countries where bread was only a penny a loaf? And what would be the position of you millers in England, who had entered into contracts to deliver red wheat flour prior to the action of Germany and the other continental nations? Would

that these princes of the desert were not short of cash. About 1,000 years later we come to the golden reign of Solomon, and yet he was a bimetalist, for although silver was as plentiful in Jerusalem as the stones, he received his tribute in gold or silver, and thus performed an act of true bimetalism.

Under these conditions we find trade between nations flourishing, as, for instance, "a horse being brought out of Egypt for 150 shekels of silver, a chariot for 600, and linen at a price."

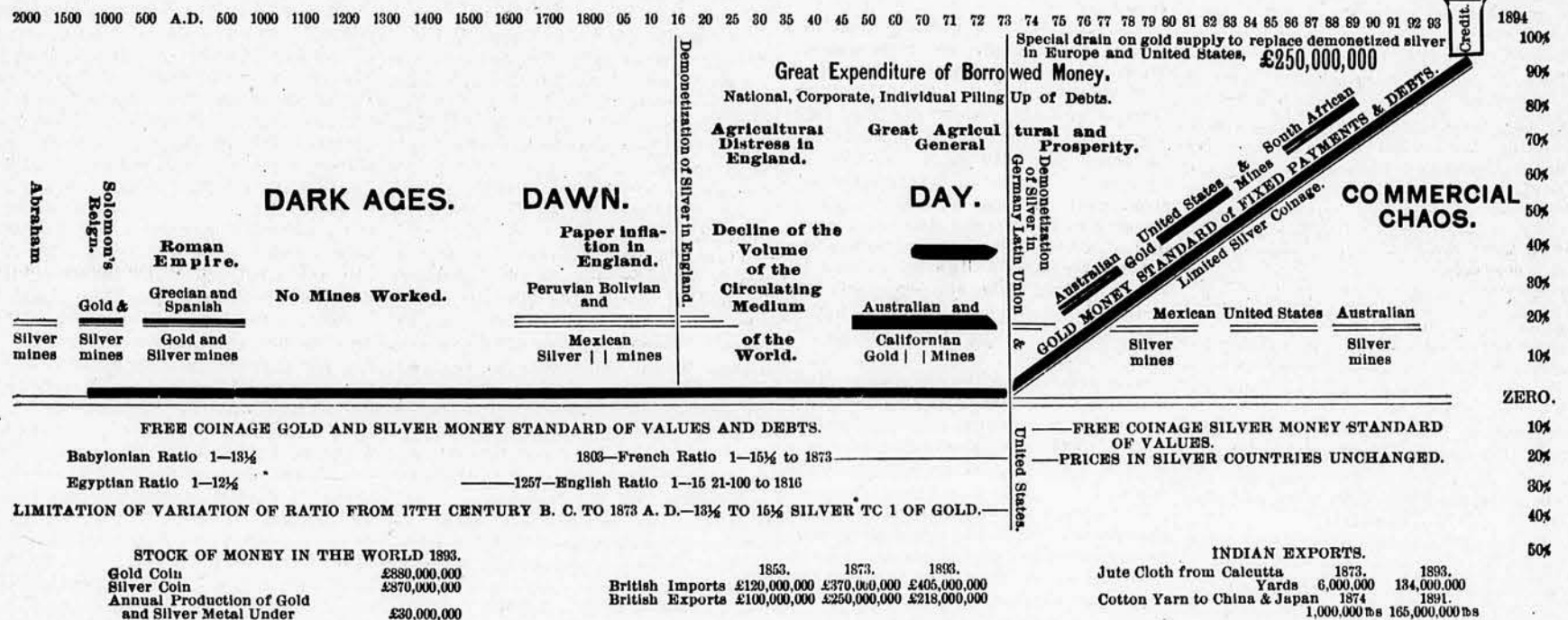
We now come to the time of the mighty Roman Empire, when the mines of Greece and Spain poured out their supplies of gold and silver, when it is computed by one authority that the coinage was equal to \$800,000,000. He also informs us that the fall of this mighty empire may be fairly attributed to the working out of these mines, and the consequent contraction of the currency; as by the fifth century the amount of coin in circulation had become reduced to less than \$200,000,000. Owing to the great fall of prices at this time—the collection of taxes involved such odium that the office of collector was made compulsory—and in spite of heavy penalties men fled their homes to avoid the office.

"During the next 1,000 years no new mines were discovered, industry shrivelled, commerce languished, learning entered upon a sleep that seemed destined to last for ages." These are known as the "Dark Ages." With 1,600 dawn begins to break.

The mineral discoveries of Mexico, Bolivia and Peru "increased the volume of money, industry revived, commerce expanded, cities multiplied; in all that concerns the happiness and progress of mankind, it may well be said that time had then a renewed birth."

Again, at the beginning of this century,

HISTORY OF MONEY.



many other countries, during the past twenty years, and the great fall in the value of all productions, is too well known to every one, for do we not hear on all sides the cry of distress, from the farmer, the manufacturer, the mine owner, the merchant, the artisan and the laborer?

Gentlemen, what is invariably the answer you will receive as to the cause of this state of things? "Overproduction!" "Prices fall; that is very simple, we produce too much." Well, the best reply I can give to this is that of the Belgian delegate to the Brussels International Monetary Conference. He said: "If I should tell you gravely that for twenty years all mankind had been so obstinate as to produce more than they could consume, that for twenty years the universe had produced things for which it has no need, that would not seem serious to you, and you would be right. That is, however, the paradoxical character of the singular theory of overproduction, by which our opponents would prove that our privations result from an excess of production, and that labor engenders poverty."

No, it is not, I think, to overproduction that we may trace our difficulties, but rather to limited production. Limited production of money, that vehicle by which we transfer our other productions from one to another, that product by which we measure the value of all other products. In short, we shall undoubtedly find that a plentiful supply of money enhances values, stimulates commerce and manufacture, induces investment and lightens the burdens of debt, to the advantage of the debtor and creditor alike, whereas a limited supply of money lowers prices, depresses industry, checks investment and adds to the burden of debt.

While the supply of the metals gold and

compete with these silver-using nations, either in agricultural productions or in manufactures.

To make this clear, that legislation may appreciate gold and depress silver, and so adversely affect the productions and commerce of a nation, I will give you an illustration you will all readily appreciate. You are all, as millers, well aware that in the manufacture of flour red and white wheats are used in given proportions. Now, for argument's sake, we will say that to make a certain standard grade, you use two parts white wheat and one part red, and that you are accustomed to enter into large contracts to supply flour for future delivery. Without notice, an act of Parliament is passed here in England, prohibiting the use of white wheat in the manufacture of flour and compelling the fulfilment of all your contracts in a flour made from red wheat alone. I am sure you would consider such legislation most unjust, and its results for a time would be to completely disorganize your trade and upset all your calculations. Red wheat would be at a premium, and in this country there would be no sale for white wheat; it would have to be exported to other countries, and red wheat purchased to take its place. But this difficulty would be only a temporary one and would not for long materially affect the relative values of red and white wheats in the markets of the world.

It would become known to the exporters of wheat-growing countries that England was no longer a market for white wheats, and they would be sent to other countries where there was no edict against their use. Red wheats would be sent to England, and so long as there was a sufficient supply of them for English requirements the cost of a loaf of bread in England would be little if any more than the cost of a loaf in any

you not be ruined? Gentlemen, this may seem to you a mad fancy to suggest that any nation should enact such foolish laws, but it is precisely what has taken place in our own day, and before our own eyes, regarding the money of the world, and strange to say many of us know it not.

As surely as bread is the "staff of life" of man, so surely is money the life blood of commerce. And as flour mills are the means whereby wheat is transformed into an article of food, so the mints of the world transform the precious metals into the money we all desire and need.

The limitation of the supply of food which nature has provided for a starving people would be no worse and no more wicked than the limitation of the supply of money to the ever-increasing demands of commerce, as the results are practically the same.

Gentlemen, I will now give you the evidence of history as shortly portrayed here on this diagram, showing that prosperity has invariably followed a plentiful supply of circulating medium, and that a contraction of the volume of money has been the precursor of commercial ruin and has been the cause even of the downfall of empires.

This undivided blue [printed heavy] and yellow [printed light] line represents the gold and silver stream of money from the time of Abraham till the year 1873, from which year, you will perceive, the stream divides; but of this division I will speak later.

Going back to the twentieth century B. C., we have the Bible record of Abraham paying 400 shekels of silver, "current money with the merchant," for the field and cave of Machpelah to Ephron the Hittite, although Ephron had offered to give him the cave, saying, "What is that betwixt me and thee?" evidently implying

we have another shrinkage in the supply of money, owing to the falling off of silver from South America, and it has been demonstrated by Prof. Jevons that from 1800 to 1849 the purchasing power of money had increased 145 per cent., or, in other words, the general level of the price of commodities fell 65 per cent. Industry was deranged and distress was universal.

"We now come to the full day. In 1848 and 1851 the discoveries of gold in California and Australia, augmented later on by the silver of the Nevadas, came to the aid of man. As the new money supply distributed itself throughout all countries, such a change came over the face of the world as can only be compared to that produced by copious rains, after a season of prolonged drought, a rich harvest of industry followed. Everywhere the wheels of commerce were set in motion, men were called from idleness to labor, and an era of universal prosperity was ushered in."

This time of progress and prosperity is in the memory of most of you. But again darkness is settling over trade. Is it a passing cloud, or are we destined to another night?

This darkness began about 1873. And many have hoped that ere now it would have passed. This time it does not seem to be universal. Only over certain countries is the darkness spread.

Gentlemen, this black line on the diagram—the year 1873—indicates the point of a new departure, to which we must all give heed. It is the year of the demonetization of silver by Germany, France and other continental nations and the United States, and the beginning of the scramble for gold to take its place. These nations had evidently not understood the lesson of history—that a contraction of money brings with it distress. They had only gone back to the

year 1816—that other black line on the diagram—when England demonetized silver, and not sustaining much injury from that, they thought they might safely follow England's Example; forgetting that the reason they had sustained so little harm was, that although England had closed her mints to silver still the mints of all other nations were open to coin it freely. As in the illustration of red and white wheats, the action of one country in prohibiting the use of white wheat did not sensibly affect the value of the red, until the other nations declared against the white, when a widening of their values began and famine prices for red wheat ensued.

No wonder we see a rapid rise of the yellow line on the diagram, indicating a startling appreciation of gold. For it caused a special drain upon gold supplies of £250,000,000 to replace the demonetized silver, and this at a time when the annual supply of gold from the mines was little more than £20,000,000. *And of this it is computed that £12,000,000 would be used in the fine arts, besides a drain of £4,000,000 sent annually to India, and there hoarded. What then would be left to meet the requirements of commerce and pay our debts?

Let me call your special attention to the fact that "never in human history has there arisen such a pile of debts and obligations of all kinds as in the present century." These obligations were all entered into when both metals were practically a legal tender, but the interest on which has now to be paid in gold. What does this mean even so far as Great Britain alone is concerned? A careful estimate has placed these charges at £150,000,000 a year.

And when you consider the national and other debts of Europe and America the sum total is simply appalling.

With these demands on the limited supply of gold, how can it be otherwise than that gold should enormously appreciate and as a consequence all other commodities be equally depressed. To gain this gold, the competition between nations has become so keen that they are obliged to sacrifice their commodities to obtain it, utterly regardless of the expenditure of labor in their production.

Having seen how these gold nations stand, let us turn to see how the silver-using nations are faring. They have had their supplies of currency increased through the demonetization of silver in Europe and America, which has poured into their mints. This plentiful supply of money (as we have seen from history is invariably the case), has enabled them to develop their resources and increase their manufactures. With them prices have not fallen, debts have not become more burdensome (except where they have contracted them payable in gold) and what for them is of inestimable advantage, and for us of incalculable injury, they are practically monopolizing the trade of all silver-using countries.

Take the exports of India for instance: Whereas the annual exports of cotton yarn from India to China and Japan in 1874 amounted to 1,000,000 pounds weight, in 1891 they had grown to 165,000,000 pounds. This means that now India is sending six times as much as the United Kingdom to China and Japan, and twice as much as the United Kingdom sends to India, China and Japan together, and is fast approaching the total export of Lancashire to the whole world.

Take again the jute trade. India exported from Calcutta in 1873 6,000,000 yards of Hessian cloth, whereas in 1892 she exported 134,000,000 yards, not to new markets, but to those which were formerly supplied by Dundee. You are all aware of the enormous increase in the export of wheat from India, which has helped to apparently pay the Indian less money in gold, still he receives the same number of rupees he formerly did, and they are as valuable to him as ever in the payment of labor and of silver-contracted debts.

Since the closing of the Indian mints last year, there has been a sensible check to Indian exports, the silver which no longer finds coinage at the Indian mints is driven to China and Japan, and there adding to the volume of their currency is rapidly developing their manufactures. Illustrating once again the ill effects of contracting the currency of a nation.

During the present year we have sent to China and Japan an exceptional amount of cotton machinery, which means that shortly these two countries will be able not only to supply themselves, but soon will become exporting nations, adding further to the competition from which we in England already suffer. In 1892 China and Japan together imported from India 441,000 bales of yarn; at the close of 1893 this had fallen to 381,000 bales, while for the first four months of this year the arrivals in Hong Kong have been only 60,000 bales, as against 94,000 bales in the first four months of 1893.

You may ask me what I should propose as a remedy for the evils under which we in England are laboring. I do not assert that the demonetization of silver is the sole cause of our troubles, but I do say that it has materially aggravated them. Even with gold and silver as a

legal tender, there is not sufficient money in the world to meet the annual charges of the enormous amount of debts that the nations have incurred, and for the extending requirements of the commerce of a rapidly increasing population.

Our monometallist friends have tried to frighten us by presenting to our imagination an enormous flood of silver that is to deluge us, if we return to the bimetallic standard that existed throughout the world from the earliest times to 1873. They assert that it would be impossible to maintain a ratio between the metals. Now, what do you suppose is the estimated amount of gold and silver coinage in the world to-day, and what the average annual supply of both these metals from the mines?

The stock of money in the world in 1893 has been estimated at about £880,000,000 of gold, and £870,000,000 of silver.

The greatest output from the mines of both these metals in any one year from 1874 to 1884 was under £40,000,000, and in nearly every year more gold than silver was produced.

Where, then, is this great flood of silver to come from? If we consider the population of Europe and America, the amount of gold coin in existence at the present time, divided equally amongst them, would yield not more than 50s. per head, and if the silver be divided among the teeming populations of the east, it would scarcely more than give them 25s. per head, and make a silver medal to hang round their necks.

Under these circumstances, do you think it would be impossible to maintain a ratio of value between gold and silver for monetary purposes? Up to 1873 a ratio almost unvarying existed (notwithstanding sudden large discoveries of first one metal and then the other) from B. C. 1700 to A. D. 1873, the average variation never exceeded 1%, the average ratio being from 13 1/2 to 15 of silver to one of gold. This small variation was owing not to the equal supplies of both metals, but to the action of the legislation of the nations fixing the ratio. Before the seventeenth century the Babylonian ratio was 1 of gold to 13 1/2 silver. The Egyptian, 1 to 12 1/2 silver. From 1257 to 1816 there was unrestricted coinage of both metals at British mints—the ratio from 1717 being fixed at 15.21 silver to 1 gold. In France in 1808 the ratio was fixed at 15 1/2 silver to 1 of gold, and was maintained to 1873, thus controlling the ratio value of metals for the rest of the world.

Gentlemen, I fear I have wearied you. Financial subjects are necessarily dry, but the commercial chaos to which the severance of these metals has brought us, the insurmountable difficulties we all find in conducting our affairs, and the impending dangers which so immediately threaten this great empire, are my excuse for bringing this important subject before you to-day. Gentlemen, I thank you for your patient attention.—*Millers' Gazette and Corn Trade Journal.*

Publishers' Paragraphs.

HARPER'S WEEKLY.—"Ministers of Grace," a novel by Eva Wilder McGlasson, author of "An Earthly Paragon," "Diana's Livery," etc., will be published in early numbers of Harper's Weekly. It will be illustrated by Carleton, and the entire novel will be contained in two issues of the Weekly.

HARPER'S MAGAZINE.—"Trilby" ends in the August Harper's, and the same number contains the second installment of Charles Dudley Warner's story entitled "The Golden House." A more complete change of scene from the old world to the new could scarcely have been effected, for Mr. Warner's story is intensely American and modern, and its developments from month to month will be awaited with eagerness. The life of New York city is faithfully mirrored in Mr. Smedley's drawings that illustrate the text.

The KANSAS FARMER desires to call the attention of its readers to the catalogue just issued by the Perine Plow Works, of Topeka, Kas. It is a very handsomely gotten up little book and contains just what every Western farmer wants to know about the use of a subsoil plow and the practical benefits of subsoiling. It also gives an idea of Perine's surface plow, used for top or shallow after-planting cultivation. The implement most needed perhaps in the near future by sweet potato-growers is a digger, and Perine's fills the bill exactly. The book contains a collection of testimonials by practical farmers that are worthy of your consideration and attention. Write for a copy of the book, which will be sent free.

The Kansas Weekly Capital publishes more Kansas news than any other weekly paper. A free sample copy will be sent on application to THE TOPEKA CAPITAL CO., Topeka, Kas.

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

SELECTION OF SEED FOR PLANTING.

One of the most interesting exhibits at the World's Fair was a very simple apparatus for assorting seeds in order that the best grains might be separated for planting. It was placed in the Russian section of the Agricultural building, and in practical trial it demonstrated its capacity to perform its work rapidly and perfectly.

It consisted of a pan, flaring at the sides, ribbed internally, fitted with a pulley to give the pan rapid rotation. A spout led the seeds to be assorted into the pan. The seeds were thrown out over the sides of the pan by the centrifugal force caused by its rapid rotation, the light grains falling near the pan and the heavier grains farther away, while the finest grains were farthest away, the grains remaining upon the floor in concentric circles, and assorted according to their weight.

This simple machine had a capacity for assorting five or six bushels of grain per hour. It was accompanied by remarkable samples of rye grown from seeds selected by this machine for several years, which were in striking contrast with ordinary samples of rye grown from unselected seeds, upon the same soils. The apparatus was patented in Europe and also in this country by the inventor, who was a Russian Count in the Province of Riga. It is singular that such a simple and effective apparatus for performing what has heretofore been quite difficult should have been invented in Russia, where agriculture is in a primitive state.

With all the progress which has been made in the agriculture of this country, the matter of selection of seed from our cereal grains or field crops has not generally received the attention it should have. This has been due, principally, to the difficulty of separating or assorting the grains in an industrial way. The grains can be assorted by a nice adjustment of sieves, but these need continual re-arrangements. The object being to retain for seed only the finest grains, the meshes of the sieves suited for one season's crop may not be suitable for the next crop. The effort should be to make a very wide selection, to select only a few grains from a bushel of common grain, to reserve one bushel of seed grain from, say, one hundred bushels of ordinary grain, thus planting only extra seeds. It is evidently difficult to carry selection of seed to such an extent with our common grain-cleaning apparatus. The simple apparatus described above seems to obviate these difficulties and to assort seeds by centrifugal force, instead of by sieves.

Mr. Shirreff produced seven new varieties of wheat, in England, by selecting remarkable seed heads in ripening fields. Major Hallett produced his famous variety, "Pedigree Wheat," by selection of heads. But while plants may be improved by selection, they also degenerate without selection. Virgil, the Roman poet, who lived 1,800 years ago, said:

"I've seen the largest seeds, though viewed with care,
Degenerate unless the industrious hand
Did yearly cull the largest."

The same rules which apply to breeding of animals apply to the breeding of plants. It is well understood now that no horse wins an important race unless of thoroughbred stock. It is well understood that selection or high breeding is profitable to the sheep owner, to the hog-raiser and to the cattleman, and it is as important to the farmer who produces grain. Plants are subject to improvement by selection and to degeneracy by want of selection, the same as animals. Plants are subject to hunger and thirst, to epidemic and contagious diseases; they are injured by parasites and are affected by stimulants and by poisons, as animals are affected. They require to be treated just as animals are treated. The farmer of the future will care more for the pedigree of plants than the farmer of the past or of the present has cared. He will select seeds for planting as carefully as the stockman selects animals for breeding.

Fruits, flowers and vegetable plants have been very greatly improved within the past forty years. The yield of sugar from the sugar beet has been

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doubled within fifty years. These plants have improved because they were propagated by specialists, who always propagated the best plants. Field crops have not similarly improved because they were propagated by those who take but little pains in selecting seed for planting. Field crops are not exceptions to the general rule that very great improvement may be made in plants by reserving the best for seed. It seems to be as important to improve our field crops as it is to improve the breeds of animals which subsist upon the crops.

It is not always true that seeds from an extraordinary plant will produce as extraordinary plants as the parent plant, but it appears to be always true that a rigid and intelligent selection of seed continued through a term of years always produces improved plants.

It is probably correct to suppose that if every farmer in the State should use the simple and cheap Russian machine for selecting the best grains for planting, an increased yield would soon be had, the expense and labor of producing the crop and the seasons remaining the same.

It has been found by planting the larger and the smaller seeds of the sugar beet separately that the larger seeds gave a better stand, gave more vigorous growth, were less liable to loss by accidents, and produced beets which contained more sugar.

It has been found that the larger sorghum seeds give a more even and a better stand, grow more vigorously at first and are in consequence more easily cultivated when young. The variety of sorghum which has the smallest seeds has 30,000 seeds in one pound. It produces plants which are delicate and slow growing when young, although it produces large canes late in the season. Evidently it would be better to plant only the heaviest grains, and by continuing this selection of seed finally produce heavier seeds than the heaviest are now. The best grains of corn, of wheat, of oats, of sorghum, will surely produce more in the long run than unselected grains. D.

GEM CITY BUSINESS COLLEGE, QUINCY, ILLINOIS.

The fall school at Gem City Business College, Quincy, Ill., opens Tuesday, Sept. 4, 1894, with a grand reunion in the College Lecture Hall Friday evening Sept. 7. A practical Business Course, a thorough and successful Shorthand and Typewriting Course—all taught by efficient teachers. Write for Illustrated Catalogue free, containing cut of our new, elegant college building with many interior photographic views of school-rooms and general information.

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

The Home Circle.

To Correspondents.

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

The Old Farm House.

Ye're goin ter build a new house, you say,
For this one's so humble an' small;
My children were born in the old house, my
son,
And the old roof sheltered them all;
We thought it was large enough then, I am sure,
And 'twas handsome as any we knew,
For the country was wild, and the people were
poor;
But now you say it won't do.

Too humble an' small, is that what y' think?
Well, mebbe it is as you say;
But the old house was always my joy an' pride,
An' now it is dearer to-day;
I planned an' I built in the sweet long ago,
When life seemed all pleasant an' fair,
When strong was my arm an' unsprinkled with
snow,
Was the raven-like hue of my hair.

Your mother, my lad, when I made her my wife,
Came here to this dear home to stay;
She was brave as the best, an' merry an' strong,
An' handsome in them days, they say,
Though money was scarce, we had plenty of
pluck
When we started to pay for the lands,
We did it, ye know, with hard work an' luck—
We loved the old house as it stands.

I remember the day that Joey was born,
The first of the dear ones who came
To cheer the old house in sunshine or storm
With a laugh that was always the same;
I remember the day that he died in my arms;
He had asked me to hold him again
Like he was a child—a storm shook the house,
And the winder was beaten with rain.

An' sometimes I sit in the same quiet spot—
The old chair is left to me still—
And forget that he sleeps down there by the
church,
Away at the foot of the hill;
I forget I've lost three others as dear,
Who are sleepin' with him 'neath the sod,
An' sometimes I fancy their laughter I hear,
As I sit in the corner an' nod.

Ye know, my dear boy, that sometimes I roam
Through the house as if I can't rest,
An' I visit the rooms that I planned years ago—
I love every part of the nest!
Each room to my heart some dear memory
brings
Of the years that are faded away;
I sit in the door when the old robin sings
Of rain, at the close of the day.

At evenin' I often sat there by the fire,
Ye'r mother an' me, years ago,
When the day's work was done, an' the children
asleep,
An' the firelight danced to and fro;
But now, with my pipe, I sit there alone
An' listen, with heart hushed and still,
To the winds, as softly and sadly they moan
Of her grave over there by the hill.

Ye're married, my boy, an' ye think that yer
wife
Won't like the old house very well;
Mebbe not, but then, till she lives here awhile,
I don't rightly see how she can tell.
I built the old house, an' I've lived in it long—
I hoped that I'd have it to die in—
But I love you, my boy; you're manly an'
strong—
What?—no!—it can't be you're cryin'?

Why, John, I don't care! I guess I can stand
To live for awhile in another;
'Tain't like I was young, for it ain't very long
Before I'll be laid with your mother,
My talk must be simple, I'm getting old;
I hadn't a thought to distress ye.
What's that ye say? "The old house will do!"
God bless you, my dear boy, God bless you!
—*Australian Agriculturist.*

CHICAGO UNDER THE MOB.

I passed hundreds of burning cars, acres of old car-wheels from which the wood-work had gone up in smoke. I saw the soldiers along the track, and we were the only train in that day. Every one was asking every one else, "Do you think we'll make it?" We did make it, and the following evening I went to Hammond with three companies of regular infantry, to raise the blockade of turned-over cars and spiked switches, and we let the only train out which had been over the road in twenty-four hours.

On the green of the lake front before the Auditorium hotel burned the camp-fires of the troops. I went over to them and met men. There was Captain Capron, standing in front of his battery park, as natural as when I had last seen him at Pine Ridge, just after Wounded Knee. There were his troops of the gallant Seventh, and acres of infantry. The camp-fires burned, the horses stamped and struck at each other on the picket lines, the Sibleys loomed, and the sentries paced, while the men lay about in groups. I called the attention of the officers to it, saying, "This is on the plains, but look beyond, at the gray buildings towering into the misty night, with their thousands of twinkling windows, and is this not a contrast? We all admired; then some one broke the silence, "And this country is that for which our fathers fought!"—and a solemn pause—"I suppose we will have to fight some for it ourselves."

Chicago's mob doesn't like the Seventh cavalry, or at least what it has seen of it. Captain L. R. Hare, with K troop, rode through the stock yards over the tracks, and the mob couldn't get used to his horses, and they didn't stop to try. They called his soldiers vile names, and United States soldiers are not used to being called names,

and they get mad about it. The men boiled inwardly, but the order "to shoot" did not come, so the poor soldier had to sit his horse and frown and "cuss" inwardly. It is awful bad messing for troop horses, charging on track; it pulls the troop in the frogs of the track, and it slips, but United States cavalry can go anywhere—that's an axiom. After the malodorous crowd of anarchistic foreign trash had run as far as its breath would hold out and the cavalry halted, a real workman came out on a window landing of a big factory and shook his fist at the flying mob. "Kill 'em—kill every one of 'em; they are cowardly whelps, and they do me harm who have a wife and children, and wants to make an honest living. Damn 'em, I wish I was a soldier."

Before the charge some men undertook to throw stones. Captain Hare raised his arm, and a man, evidently an American, came out of the crowd and harangued it: "Now go away; them's United States soldiers, and they are ordered here, and they'll shoot if they get the order, and if they shoot they'll kill a heap of people; they can't help it; don't curse them; curse Cleveland; he's the man that they represent;" but he was howled down by a mob too beery to comprehend even that much sense.

When I went with the three companies of infantry to Hammond, they got the order in their camp, were packed in fifteen minutes, and "right forward—four's right," they swung off down the road.

It would do any soldier's heart good, it would fairly fill his eye, to see our United States soldiers out here—it is so refreshing to one who knows how to estimate parade-day affairs—the business-like look, the utter "don't care" of the men; the perfect machine, the tall, bronzed young athletes with the packs and campaign hats, the water and grub and 100 rounds, the officers in flannel shirts with revolver and sword. And right here I must say that I have associated with the enlisted men of our army, and a cleaner, decenter lot of young fellows can't be found anywhere. They are pure and simple of speech, they are honest, and no man can be one who can't pass the most rigid physical examination imaginable; and to see them stand in front of the howling mobs—grim, no emotion—a perfect mental calm, generated by the knowledge of the usefulness of the technique of their trade—to hit a man at 500 yards with a Springfield—is a simple delight. They don't think that the mob have a correct and proper appreciation of their trade, and it piques them; they have lain out on the target range at 700 yards of a long summer day, and calculated the light and the wind, and gotten up quite an enthusiasm over a painted black spot and a little record book, and when a vicious wretch with no blood circulating above his ears calls them names their sporting blood is aroused.—*Frederic Remington, in Harper's Weekly.*

Woman's Rights.

EDITOR HOME CIRCLE:—Have all of you tired of the discussion of "Woman's Rights," or have you succumbed to the hot weather? If you are tired of the voting phase of woman's rights, some one please send in their opinions of "children's rights."

In looking over the old-home paper, a few weeks ago, my eye was at once caught by the glaring head-lines of an infanticide, said paper giving a graphic description of the terrible state of excitement the town was thrown into, and also the arrest of the mother, who was a young ignorant Swede girl. But what of the father? Where was he, who was he, and why had he not manhood enough to have cared for the poor unfortunate mother, that she, in her terrible trial, might not have been tempted to commit the crime? Some time in the future—let us hope the time is near at hand—the young men will find that, unless the father of all illegitimate children is proclaimed and made care for his offspring, a stigma will rest on him.

But more sad than this is the news from a Western town of three beautiful young girls all being ruined at near the same time by one young man. The irate father of one motherless girl compelled the rascal to marry his daughter, but he left the country immediately after, so one child has a name, though a disgraced one, and the mothers are left to care for his little ones as best they can. What punishment should be meted out to him, think ye sisters? You mothers who are "not interested in the laws of your land," if one of your daughters were left in the condition of one of these, would you not pray to high heaven for a just law to punish her destroyer? You say your daughter is too well bred and raised for any such blight to fall on her, but the destroyers always seek the fairest flowers. If you would just lay aside prejudice, and reason and read and study, I think, you too, will be ready to help make the laws, that they may be less unjust. Mrs. OLIVE ROBY-FERGUSON.

Chickasha, I. T.

When the scalp is atrophied, or shyn-bald, no preparation will restore the hair; in all other cases, Hall's Hair Renewer will start a growth.

The Man and the State.

Graduating thesis, by W. O. Staver, Glenn, Kas., at Kansas State Agricultural College commencement, 1894.

There is a strong similarity between the paternalism of the past and the socialism of the future, between the social system of Edward Bellamy and the absolutism of Louis XIV. Each acting in its own sphere admits of a strong parallelism with the other.

For years, during the middle ages, the struggle between the contending forces of feudalism was waged. Nations rose and fell. The weak were governed by the strong. Authority was vested in a King and his chosen few, thus leaving the common man in ignorance and fear. Slowly but surely have the masses—the poor, the ignorant and the untitled, in a word, the fourth estate, gained strength, advancing at every step, finally reaching the stage of enlightenment where they are now capable of self-protection and even of contending for the highest places of honor.

From this class descended the sturdy Puritan, who broke away from the strong paternal despots of Europe, sailed westward to an unknown land and established this free and equal government, recognizing the individual man as the true sovereign. But after a century's growth in discussion and education under this system, the tide of political thought is drifting backward toward this old policy of paternalism, which existed when ignorant man was controlled and cared for by those in authority. Many having vague ideas of the true purposes of government, demand legislation in their interest, and we see the laborer, the farmer, the manufacturer, the merchant, aye, even the saloon-keeper, each clamoring for protection and demanding recognition and legislation.

That many are rich and living in luxury, while multitudes are walking the streets actually begging their bread, no one will deny. To remedy these conditions many would establish a system of paternalism in which the state shall own and control the railroads, the telegraph and telephone, furnish employment to the people, act as banker, landlord, teacher, merchant, in short, be parent to us all, thus giving the idea that men are made for states. Judging from the experience of older nations, we could not endure such a strong central government. But could the state provide for all? Would it yet proclaim liberty as the universal birthright of all men, or would it, when once thoroughly organized, favor a certain few who, when once in power, could not be restrained and would rule with tyranny and oppression? Looking beyond into the distant future, we see a nation degenerating under this proposed system of paternalism; a state becoming an aggressor instead of a protector; "a merciless tyrant, as it were, sitting on a despot's throne."

Government began in tyranny and force, but with the progress of the ages there has been a great limitation of its sphere of action and authority, thus placing more responsibility upon the man. Government in itself can do nothing, but man with his philanthropic spirit helps the poor, feeds the hungry, teaches the ignorant, civilizes and conquers the world, the state only protecting him in these various enterprises.

Protection, then, is the essential function of government. Beyond this it is an intruder on the private rights of its citizens. Man is endowed with a free will and his desires and ambition cannot and should not be restricted by state powers, for he ever climbs loftier heights, discovers new fields of action, and step by step advances until the last obstacle, his own selfish nature, surmounted, the age of self-government is ushered in.

Child Labor--Effects Upon Wages and Welfare.

Graduating thesis, by Phoebe C. Turner, Rock Creek, Kas., at Kansas State Agricultural College commencement, 1894.

In speaking of child labor, we do not mean such as you and I are familiar with, but child labor as it is known in our crowded manufacturing districts. True, many of our States have prohibited the employment of children. The laws of Massachusetts, for instance, are emphatic on the subject, yet the provisions are continually violated through the greed of employers and parents of the operatives, and many children are sent to work at the early age of 5 years, and the ages of 6 and 7 are very common.

In the first place, that which they could do at this early age must necessarily be routine work requiring little or no exertion of the mental faculties. Thus the little life goes on, day after day and year after year, with ceaseless drudgery, having no time during the day for those delightful play hours so dear to the childish heart, and at night being too weary for play—almost too weary for sleep. Soon the baby face takes on a haggard care-worn look and the figure that should be supple and straight looks bent and old. Perhaps it is not the work that wears on the child so much as the constant confinement in close, ill-ventilated rooms. Some of our States have enacted laws requiring a certain

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amount of room and air where operatives are at work, but even in these cases the confinement is too great for growing children.

One of the worst evils the child operative suffers is the lack of school privileges. At the very time when the mind most needs training this is absolutely neglected. Absolutely, for his routine work not requiring thought leaves his mind free to wander at will. Is it strange his mind does not wander very high; that he turns over and over again, in thought, during his tedious hours of labor those scenes of vice he witnesses every day until these scenes at last become his only idea of recreation? And later, should we be shocked to find the child laborer a man content? Whether we are surprised or not, it is authoritatively stated that the majority of them on reaching maturity seem almost without moral sentiment.

In England, although the over-working and under-paying of minors is now subject to heavy penalties, the people who have come from generations of factory children can be told anywhere by their undeveloped figures, their sunken, sallow cheeks, and slow uncertain intellects. They are said to appear like another race of beings. The question is asked: "How long will it be before a deteriorated race like the Stockinger, Leicester, and Manchester specimens springs up on our New England soil?"

Certainly a system that makes paupers and fiends of men does not belong to an enlightened people like our own, and so long as it exists, so long as the children of our land are turned into feeble old men and women when they should still be playing at "hide and seek," so long will the far-sighted have cause to tremble for the future of America.

"Among the Ozarks,"

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

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The Young Folks.

The Boy in the Mow.

There glides through the barn's mammoth door,
A sweet-scented hill-top of hay;
An athlete, with strength bubbling o'er,
Now flings it in forkfuls away.
Another is stowing it back,
With white pearls of toil on his brow;
And, treading the hay in his track,
Looms faintly the boy in the mow.

Through crevices often can he
View, past the old barn wall of brown,
A river that leads to the sea,
A railway that drives to the town.
"Oh, when shall my fortune make hay
In yon fields of splendor, and how?
"I'll wait for full many a day;
I'm only a boy in a mow."

A cloud like a flag from the sky
Is splendidly spread and unrolled;
The sun reaches down from on high,
To fringe it with silver and gold.
"Oh, when will heaven's mercy my name
As bright as those colors allow?
But earth has no glory or fame,
To waste on a boy in the mow."

A cloud in the west, like a pall,
Creeps upward and hangs in the light;
It carries a gloom over all;
It looks like a part of the night.
With clamor the thunder-bolts swarm,
And trees bend in agony now;
"Tis thus, too, that poverty's storm
Would conquer the boy in the mow!"

The clouds have flown into a dream,
The birds are discoursing in glee,
The smile of the sun is a gleam
On river and hill-top and tree.
Look up to the heavens, little lad,
And then to your earth duties bow;
And some day both worlds may be glad
To honor the boy from the mow.
—Youth's Companion.

PAYS ONE CENT TAX.

Jeremiah Connell lives in a modest little cottage in the outskirts of Kingsbridge, and the fact, which is pretty generally known in the neighborhood of his home, that he is a lineal descendant of an old Irish king, has not made him feel that he was better than his neighbors, or prevented him from working about as hard as any one for a living. Mr. Connell landed in this country thirty-eight years ago, without a penny in his pockets, and a young wife to take care of. He had learned the trade of a gardener in the household of an Irish lord, and he left the Green Isle because he had got to the end of his rope, and there was no chance for his advancement. He had good luck from the very start, and had only been in this country a few days when he was employed by Charles M. Connelly, the brother of "Dick" Connelly, who was City Controller during the Tweed regime, as head gardener in Fort Washington. He remained there for several years, and his work was done so well that there was a lively bid for his services, which were finally secured by Miss Maria Shradly, the aunt of Dr. George F. Shradly, of Kingsbridge, with whom he staid for eight years. Kingsbridge was far away in the country then, but it was the home of a very lively crowd of young men who used to spend their money riotously in the village saloons. But Mr. Connell was not in their class, and his thrift and good habits were so well known that he was held up as a sort of model by the mothers of young fellows in the town who were inclined to sow wild oats.

Mr. Connell, with the true feeling of the Irish heart, yearned to have a little home of his own, and when he had saved money enough he bought a little plat of ground in Kingsbridge and put up a little cottage. If it did not have all the latest conveniences it had what is better yet, a clear title without any mortgages, and when Mr. Connell moved into it just twenty-five years ago with his wife and seven children he was the happiest man on earth, and he went on then with his work satisfied that in his old age he would have a roof of his own over his head. In this humble home the Connells lived contented and happy, and the only troubles that came were the deaths of four of the children, who were laid in the grave.

Old age came on apace, and Mr. Connell and his wife have both passed their sixtieth birthday. The husband had started a little grocery store on the first floor of the cottage, just to have a little income to make him easy in his declining years, and was getting along very well when a notice was delivered to him that the city was going to take away his home and run a street to be known as Fort Independence street, where his little house was standing.

This was a year ago, and there was weeping and sorrow in the Connell household over the prospect. Mr. Connell did not care so much for himself, but his good wife had been so happy raising ducks in the old Indian brook, Manasset or Williamson creek, that she could not become reconciled to the idea of giving it up.

But all of Mr. Connell's objections could not change the course of the street, and the surveyors and commissioners came around, laid out the street directly through his house and offered him \$1,800 for the land. It had cost him more than this years before, and he would not take the sum. He de-

clared that he would defend his home, which was his castle as well, with all the vigor and kingly blood in his veins, even to giving up his life, unless he got more money, and whether it was his threats or the justice of his claim that influenced the courts, he was awarded an addition of \$531, making \$1,881 for the property. The surveyors in cutting across his lot left him a little strip of ground big enough to move his house, so he got his cottage out of the way and fixed it all up with paint and new fixings outside and inside, so that it is really the envy of the neighbors.

During the many years that Connell has been taking care of himself he has made it a point to pay every debt when it came due, and it is this, perhaps, which has led his friends to call him "Honest Jerry." He was, therefore, greatly surprised when he received a notice from Controller Fitch a few days ago that he was in arrears for taxes.

"I had paid all me taxes," said Mr. Connell, yesterday, "and I could not understand what was meant by the piece of paper. So I went to see Mr. Fitch, and he told me that I owed him a cent for taxes. 'For what?' sez I. 'For your bit of land,' sez he. 'Where is it?' sez I. 'On the map,' sez he, and then he tuk down the map and shows me a bit of land two feet one way and eighteen inches the other. Sez he, 'That's what you own.' 'I do not,' sez I, but he proved to me that the strip of land was left in one corner of me lot after the street had been laid out, so I tuk it as a gift from the city. It was not much of a gift, but it shows that the city is honest when it wants to be, and I don't know how often that is from the size of me tax. The value of me bit of land is fixed by the commissioners at \$1, but I'll tell you now that not wan dollar or tin dollars can buy that land, for me wife claims it as her own property, although the deed still stands in my name. Me wife has always been a good woman to me, so I let her have her way, when it agrees with me own."

"What do you want of the land?" sez I to me wife.

"Now, what do you think I want it for?" sez she.

"I couldn't guess the ways of a woman," sez I.

"Then I'll tell you, Jerry," sez she. "There's me old goose, Mary Ann, that has raised over two hundred ducks in her day, will be eighteen years old on November 6, and I intend, when she dies, to bury her in the plot, which the city gave you, Jerry, and put a dacint stone over her."

"I would not sell this land for any price," continued Mr. Connell, for I am proud to know that I own the smallest piece of land, and I pay the least taxes of any one in the city, under the guns of old Fort Independence, which were fired agin the English in 1776." — N. Y. Recorder.

General Sherman Kept Open House.

When Sherman went to live in Washington it seemed as if every soldier who came there felt bound to call on him. Every man of them was received as an old friend and companion. Day in, day out, the bell would ring, and "It's a soldier," the maid would announce.

"Let him in," the General would answer. No matter what he was engaged upon, or who was in the room, the worthy and the unworthy alike went off with his blessing, and, if need be, his aid. He kept open accounts at shoe stores, where every needy soldier calling on him could get shoes at his expense. One of his beneficiaries, at least, did not withhold due expressions of gratitude. A young colored man, who wore a big scarlet necktie and twirled in one hand a silk hat and in the other a fancy cane, calling, said:

"Yes, Mr. Sherman, I want to thank you very much for the place you done got for me in the department. I likes the place. Yes, Mr. Sherman. And I wants to thank God for you very much, and I hopes you'll get to heaven just sure. Fact is, I just know you will."

"That's all right," said the General, glancing over the top of the newspaper he was reading, "only you look out that you don't get to the other place."

Sherman loved young people—associated with them all his life. There was no frolic he could not take part in with them. Boys, not less than girls, liked him and his happy ways. He made the sun shine for them. If he kissed the girls, the girls kissed him.

Once I saw him at Berne when he was boarding the train for Paris. Every American girl who happened to be in the town came to see him off. Not one of them had ever seen him before, but every one of them kissed him; so did some of their mothers. Women like real heroes in this world.

In 1874 he moved up town to Fifteenth street, and almost next door to Mr. Blaine. Sometimes in the hot summer evenings the two sat on the stone walk out in front of Sherman's house till late in the night, talking about everything except politics. I was often an interested listener. Sherman called Blaine the "Great Premier."

"He has a great genius for running things," said he, "and parties; likes to

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

Royal Baking Powder

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make friends, and has got lots of them; knows how to make enemies, too. Can't keep all his promises—makes too many; forgets them. That's politics. He is a great man, though, a statesman, spite of his shortcomings."

Speaking of Blaine's bitter enemies, he once said: "All successful men are hated by somebody."

Sometimes those hot summer evenings, in Fifteenth street, he held quasi-receptions out in front of the house, so many people came to see him. Everybody felt at liberty to call, or, if he saw friends passing under the gas light, he bade them sit down and chat. Inside the house his hospitality was boundless. There was never any end to guests. He kept open house, as it were. The table was always spread, and unexpected guests sat down daily. I wondered at the time how his salary, though large, ever paid his expenses.—McClure's Magazine.

"Mamma, was that a sugar plum you just gave me?" asked little Mabel. "No, dear, it was one of Dr. Ayer's Pills." "Please, may I have another?" "Not now, dear; one of those nice pills is all you need at present, because every dose is effective."

Hundreds of young people are going to attend the Wichita Commercial College this fall. Y. M. C. A. building.

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GET A GOLD WATCH.

The KANSAS FARMER has desired, for a long time, to make a premium offer of a fine watch to club agents. For that purpose we have written to many watch manufacturers and dealers, getting prices and testing quality, and not until recently have we found what we were willing to offer.

The representation of the PREMIER SOLID GOLD FILLED WATCH will give a fair idea of the appearance of the one we have selected. It is not a solid gold watch. It is not worth \$100, nor \$50, but we doubt whether you could get so good a watch in your local stores for less than \$25.

In order to be sure of the quality before making this offer, we ordered one for our own use; and if you could see the immense pride with which we pull out that gold watch in a crowd of elderly boys, just to tell them the time of day, you would certainly think it was valued at one thousand and thirteen dollars.

We do not keep the watches "in stock," but send each order to be filled by the Watch Company, with whom we have a special rate. The benefit of this rate we will give our readers if they care to order a handsome watch.

From this company, which we know to be reliable, we have the following guaranty:

"We guarantee to take back any defective or unsatisfactory case during any period within five years."

You can be supplied with WALTHAM, ELGIN HAMPDEN, COLUMBUS or SPRINGFIELD STEM-WIND and STEM-SET movement. No watch key needed.

These watches look like gold watches, and to all outward appearances resemble a solid gold watch worth \$150 or \$200. The outside of the watch is gold, but underneath is alloy. The warranty is that the gold will not wear through inside of five years, and with good care will last a lifetime.

OUR OFFER is as follows: The KANSAS FARMER one year and the Premier Gold Filled Case Watch (hunting case), \$10. The Watch alone, \$9.50. Express charges to any part of the United States, 25 cents, to be paid on receipt of watch.

We do not specially solicit purchasers for the watch alone, as our offer is made for the benefit of subscribers. Otherwise we are not in the watch business.

We will give this watch as a free premium instead of cash commissions to any one who will send us twenty subscriptions to KANSAS FARMER and \$20. The names can be all from same post-office or from twenty different postoffices. Remember, it is a Solid Gold Filled Hunting Case, with any of the above named movements, in EITHER GENTLEMAN'S OR LADY'S SIZE.

Address KANSAS FARMER CO., Topeka, Kas.



KANSAS FARMER.

ESTABLISHED IN 1863.

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

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Topeka, Kansas.

ADVERTISING RATES.

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

Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

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

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

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

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

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

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

A valuable communication from Secretary Coburn on "How to Fight the Russian Thistle" is necessarily held over until next week.

Should the corn crop be as much shortened as some of the reports indicate, the increased demand for wheat may brace up the price of the latter.

A Washington dispatch last Friday stated that the average condition of corn in the United States had been injured 50 per cent. by the drought and hot winds.

NAMES WANTED.

It is not often that this paper makes a special request of its readers, but we want the name and address of every farmer in Kansas who is not a subscriber. Will every one of our readers favor us with a postal and a list of names?

We are indebted to Sergeant Jennings, of the Weather Service, for a copy of a circular of information as to "Protection from Lightning," by Alexander McAdie. It is the most sensible lightning book yet published and it is well worth while for every farmer to write to the Secretary of Agriculture, Washington, D. C., and obtain a copy.

A book recently issued from the press of the Roubidoux Publishing Co., of Topeka, entitled the "Free Soil Prophet of the Verdigris," is peculiar and interesting. Questions of public importance are discussed in a familiar way and deductions are reached in the easy flow of a story. R. E. Heller, the author, has evidently a clear conception of many of the complications of society and decided views as to their remedy. The book is published in either cloth or paper and should be in every Kansas library.

The Ottawa Lever, organ of the Prohibition party, publishes in extenso the war record of that party's candidate for Congressman-at-large, Major Frank Holsinger, of Rosedale. This record is highly creditable, as is also the Major's horticultural record. Three bullets received in one engagement, a broken arm and other casualties were not able to lay him off from active service until he had given five years and ten months to the war. His services as a horticulturist have continued longer, and though less exciting and less dangerous, have been no less honorable and possibly more useful.

A practical book on entomology has just been given to the press by Prof. Lawrence Bruner, of the University of Nebraska, and published by the Nebraska Farmer Co. The book contains 322 pages, and is the most valuable, practical and scientific work on entomology yet published. The reader sometimes wishes the author had gone a little more into detail as to remedies for injurious insects, but is nevertheless gratified at finding so much so well presented. The book is up to date and should be in the hands of every farmer who ever loses anything by bugs or worms. Cloth bound 75 cents, sent on receipt of price by Kansas Farmer Co.

WANT AMIDST UNUSED ABUNDANCE.

For generations the American people have edified themselves with reviews and analyses of the great wealth of still unused resources available within our borders. Scarcely can the ring of the Fourth of July oration have been forgotten wherein it was shown that without any strain upon our productive capacity this country could support in abundance and luxury many times its present population. With these pleasant reflections reverberating through our social organization, we have felt rich in the realization of our reserve of unused resources. Almost suddenly our patriotic exultation has been cut short and we are compelled to face the fact, proven by common observation and all too abundantly confirmed by official statistics, that some millions of the people of this country are vainly seeking work that they may earn the daily bread for themselves and families. Not much careful examination is required to ascertain that although this condition did not come about in a day or a year, it is yet of very recent growth and is at this moment developing rapidly.

Only a little investigation is needed to assure the inquirer that, though appropriated, the unused resources yet exist and that the development thus far made has produced so abundantly that only a portion of the generous gifts of nature to industry is consumed in this country, leaving a very large surplus to send abroad. Take any train out of Topeka and unused fertile acres will be speedily passed by thousands, while the granaries are full to overflowing and cattle and swine crowd the freight trains, seeking markets.

Farmers and manufacturers alike fear losses so that they dare not employ labor to swell the volume of productions, having had the bitter experience of marketing the product for less than the cost. The situation has become so extreme that even tillers of the soil hesitate to accept the offers to work for board and lodging. That this combination of facts is unnatural, as it is surprising and distressing, is no more true than that it has an artificial cause.

On the 4th and 5th pages of this week's KANSAS FARMER, is printed a paper recently read before the British Miller's Association and published in the *Millers' Gazette and Corn Trade Journal*, of London, England, which gives in clear and comprehensive, yet brief terms, the history of the cause of this and of other great depressions. It shows, what well-informed persons have well known, that the present financial and industrial chaos affects many nations. It shows also that the present distress is the direct and inevitable result of legislation. It shows that each sovereign nation has it within its power to speedily cure the evil within its borders.

Careful and unbiased investigators of the subject long ago found and published their finding that in this country the evil could be removed by removing its cause. It should be known and understood by every American, who is inconvenienced in any way, or who is suffering from the hard times, that it is now and has been for years within the power of Congress to bring the depression to an end at will. That the present Congress has the power, and owes it to the people to so enact that, within thirty days, activity will take the place of dullness. That within three months industry will take the place of idleness and plenty will take the place of want.

If the present Congress shall, as it probably will, neglect the opportunity, it is possible that political jugglery and fights over comparatively unimportant matters will so direct the attention of the people as that they will fail to fix the responsibility where it belongs. But if, as seems inevitable, times continue depressed, want and demoralization increase, with only slight variations, and the needy can be told only, that, perhaps, another Congress will remove the barrier to the enjoyment of the blessings which a kind providence has provided, it is not pleasant to contemplate conditions which seem likely to arise. It is doubtful if in this

country sufficient repression can be exerted to keep great numbers of people who are in want, orderly amidst abundance. Charity will avail but little because its abilities are too limited and because its recipients rapidly succumb to its demoralizing influences. Hunger makes men, and women too, fierce and relentless. When driven to the worst in other times and nations they have formed into predatory bands to raid the farmers' stores as well as into mobs to loot and burn in the cities. It is useless to expect that order and want can prevail amidst unused resources or that abundance can be produced and sent abroad while scant clothing protects from the winter's blasts and hunger wastes the would-be laborer's children at home.

A commission duly appointed in this country reported to Congress some years ago a startling showing of the woes then descending upon this country on account of the demonetization of silver, and pointed out with incontrovertible clearness the advantages to be gained by a return to the monetary system under which everybody had been busy and prosperous. The same conclusion is reached now by the English writer quoted elsewhere. How long will be continued the crime of continually enlarging the measure of value so that it is profitable to keep money stored away and unprofitable to use it, is a question of the first importance.

Disasters in other ages have had their causes. Sometimes the product of the mines has fallen off. Sometimes extensive famines have prevailed. Sometimes wars have impoverished. In most countries the support of the opulence of a court and a nobility has taxed the resources of the people. At this time the law-makers of the leading nations have deliberately and at the request of a selfish oligarchy turned down half of the money of ultimate redemption—silver money—and have produced an artificial demand for the other half, thereby causing it to rise rapidly in value or purchasing power, and have interrupted the activities of the people. Retrace this false step and give us back the money of the ages and prosperity will again be ours.

Continue on the new departure—the increase of the value of silver and the account—and times must become harder with possibly temporary periods of relief.

GENERAL GRANGE PIONIER.

The general picnic held last Wednesday at Coberly's grove, under the auspices of the Patrons of Husbandry, was enjoyed by several hundred people, notwithstanding the heated condition of the atmosphere. The first address was by Hon. A. P. Reardon, Master of Kansas State Grange, and was by the speaker denominated a skirmish. Mr. Reardon spoke particularly of the success of the Grange Co-operative Insurance Company, which has been in operation for five years, is carrying over \$700,000 of insurance for its members, and has a surplus of \$1,600. He spoke also of the fact that eight States are organizing for co-operative buying and selling and of the success attending all well-directed efforts in this direction. A co-operative building association is proposed for the purpose of enabling farmers to secure the benefits of low rates of interest and to become the beneficiaries of the business through co-operation. Speaking of politics, Mr. Reardon urged his hearers to select for candidates the best men in whatever party they belong to, and in this manner make sure of wise legislation and honest administration in any case.

At the conclusion of Mr. Reardon's address an adjournment was taken for lunch, when people gathered into groups as suited their convenience, and enjoyed the bounties prepared, under the shade of the elegant trees.

Hon. J. H. Brigham, of Ohio, Master of the National Grange, was introduced after dinner and delivered an address full of good points and timely suggestions. Himself a practical farmer, who declared that if any of his hearers should visit his home in Ohio he would show them that he could pitch as big a forkful of hay on as high a load as anybody, he claimed

that all prosperity is dependent upon the prosperity of the farmer. He said in part: It is necessary for somebody or some person to protect, promote and watch over agriculture. Can we expect men who have invested their money in other avenues to protect it? Farmers must protect and foster agriculture if it is cared for. If we want help we must help ourselves. We must not only do all we can individually, but also collectively. Numerically farmers are almost equal to all other people in this country. What we want and must have now is the power of the farmer through organization. The necessity exists for local, State and National organization. All other avocations have their organizations, and in the selfish struggle of the age the unorganized are at a disadvantage. There is only one remedy for the case of the farmer, who is, single-handed, unequal to the struggle against combination, and that remedy is organization. It is not our purpose to make war on other industries, but to right the wrongs. The farmer should organize to buy cheaper, to sell higher and to enforce economy in public expenditures. He should organize socially to provide the best advantages possible in that direction. He should also organize to right political wrongs, not by forming a farmer's party, but by the non-partisan methods which have been found efficient. The speaker then gave an account of some of the legislation secured and some prevented by the action of the Grange, and gave an account in detail of some of the experience of the legislative committee of the National Grange.

The address of Mr. Brigham was well received, and might have continued longer but for the necessity of taking an early train.

CORN REPORTS WANTED.

There is at present much uncertainty as to the extent of the damage to corn wrought by last week's torrid wave, which seems to have covered an unusual extent of country and to have added to the effects of the drought which had previously seriously damaged crops from the western limits of the corn belt at least to the foot of the Allegheny mountains. The arrangements of the farmer for the coming year must be considerably modified to adapt them to the changed position of corn. The extent and character of these modifications should be upon a thorough and full knowledge of the present position. The KANSAS FARMER therefore asks each of its correspondents and others interested, to mail to this office, as soon as convenient after receipt of this paper, as early as Saturday of this week, if possible, a postal card report of the condition of corn in his county.

THE RUSSIAN THISTLE PEST.

That much-to-be-dreaded pest known as the "Russian thistle," "Russian cactus," or "Russian tumbleweed," which has gained such a foothold and is spreading so rapidly in the Dakotas and Nebraska, is already finding its way into several of the northern counties of Kansas and causing much anxiety in both town and country.

This weed is estimated as having done damage to the extent of several million dollars in two or three of our neighboring States within the present year, and considering that with its other hateful characteristics it is, when full-grown, a genuine "tumbling" weed, and that an average plant matures from 20,000 to 30,000 seeds, our people cannot be too vigilant or active in preventing its spread.

With a view to having them early and fully advised as to this new enemy, Secretary Coburn, of the State Agricultural department, is having prepared an illustrated bulletin, giving full information as to its character and how best to combat it. He will send numbers of these to officials and others in the exposed counties for distribution among the people before the thistles ripen their seeds, and hopes to have them ready within the next week. These bulletins will be free, and all interested in knowing about this scourge with which the State is threatened should write for a copy at once to Secretary F. D. Coburn, at Topeka.

WEATHER-OROP BULLETIN.

Issued by the United States Department of Agriculture, in co-operation with the Kansas State Board of Agriculture, for the week ending July 30, 1894, T. B. Jennings, observer:

A few light scattered showers, amounting to .02 in Wallace, .10 in Thomas, .12 in Clark, .20 in McPherson, .09 in Shawnee, and .17 in Atchison, with a trace in Decatur, Mitchell, Cloud, Ottawa, Sedgwick, Pottawatomie, Coffey and Montgomery; almost uninterrupted sunshine, and extraordinary high temperature, with hot winds, have characterized the week. Our rainfall reports closed Saturday evening, at the close of which there was promise of rain in many counties.

These very unusual conditions have necessarily proved unfavorable to crops generally. Corn has been seriously affected; in the southern counties the early planted was generally sufficiently matured and will make a fair crop; in the middle and eastern divisions—the corn district—corn is much spotted, some fields being considerably damaged, while neighboring fields were not touched, the character of the soil often determining results, dark soils proving advantageous, listed corn standing it better than planted. The hay crop has been materially shortened and many farmers have decided to wait for the August rains before cutting. The unfavorable conditions have caused apples to fall badly and have checked garden growth, yet old residents confidently expect the recuperative powers of Kansas soil to recover, with the August rains, a large part of the crops that have been damaged this week.

DETAILED REPORTS.—EASTERN DIVISION.

Atchison.—All crops in excellent condition. Apple crop very heavy. Wheat threshings show very good yield. Rather dry, but if rain comes in a week no serious damage will result.

Brown (Hiawatha).—The last seven days have completely changed the appearance of corn. With abundant rains within a day or two the very early corn could yet make near half a crop; second early and medium (our largest acreage) would be the least benefited, as the pollen is nearly all dry or blown off and but few ears started. The late and very late, with plenty of rain within a week, could yet make a fair crop if not injured by early frosts. (Horton).—Without a corn rain for two weeks, the extremely high temperature this week has injured the earlier planted corn fully one-half. It was a full stand and suckered badly, which accounts in part for its being badly injured. With good rains soon the late planted will be in condition to promise a fair crop. (Pierce Junction).—The corn promises a fair crop; the hot winds Thursday and Friday injured some fields. The drought and bugs have greatly injured the potato crop. Apples abundant and fine quality. Millet and oats good. Wheat excellent. Pastures short.

Chautauqua.—This has been the worst month on corn we ever had in this county. We won't get to exceed one-half a crop. Hay, millet, Kaffir corn and sorghum will be very light crops. Wheat was good, oats better than expected.

Cherokee.—Corn so far is all right except a strip on west side of county, where corn is reported as firing a little. Apple crop light, hay medium, wheat good, oats average, flax a full average. Pastures good but will soon need rain.

Coffey (Gridley).—With rain in a few days most of the corn will make a fair crop. Potatoes plenty, hay good, flax yielding from seven to ten bushels, oats from fifteen to twenty, good quality, pastures holding out good, stock doing well. (Lebo).—Corn spotted; hot winds have cooked it in small patches surrounded by areolas of partly injured. About 10 per cent. of corn ruined and 20 per cent. injured. Early planted is practically made though would be fuller and heavier had not this spell struck us. Listed corn standing it well. Prairie hay short. Pastures injured. Apples fine but beginning to fall. Gardens struck.

Douglas.—With these hot winds corn will soon be greatly damaged unless it rains.

Elk.—Corn standing it well but need-

ing rain badly. Pastures and stock water drying up fast.

Geary.—Corn is suffering for want of rain, and unless a good rain comes soon will be a failure; much upland corn cured like hay, and fruits wilting on trees.

Jackson.—Corn has been injured some by this hot atmosphere. The southeast half of the county is in better shape than the northwest half.

Johnson.—Corn so far advanced that the two days of hot winds did not injure it.

Montgomery (Coffeyville).—Have had hot winds for several days. Corn on bottom lands injured 50 per cent., on upland 75 per cent., meadows and pastures almost dry enough to burn, millet and late potatoes will be total failures, apples badly damaged, melons, cabbage, tomatoes and late gardens ruined this week. (Elk City).—The 107° of the 24th fired much corn, each day causing it to grow worse up to date. With rain in the near future the corn of this locality cannot make more than 40 per cent. of a full crop. (Independence).—A severe week on corn, which on thin soil is fired to tassel; that on deep mellow soil has stood the ordeal well, and would be much benefited by rain yet. The mean temperature for the week is 6.3° above the normal.

Pottawatomie.—Never was a better prospect for corn than one week ago, but the hot winds seemed to burn it like a blast from a furnace. There seems to be no choice between early or late planted, on high or low land; immediate rain might save a part of the crop.

Riley.—As a result of the week's weather all crops are in a critical condition; apples are dropping badly, early corn much damaged but with a good rain immediately would make something; late corn not so badly hurt, but cannot make over two-thirds of a crop; pastures poor and cattle being sent to market; stock water drying up, wells going dry and springs that never before failed are dry.

Wilson.—Fields of corn that ten days promised a yield of twenty-five to forty bushels will not make one-fourth that amount. Corn in the bottoms that was not overflowed has not suffered so much, while many fields on uplands will burn. A passing train set fire to a meadow; tomatoes cooked on the vines, garden stuff badly used up.

Woodson.—The hot winds and dry weather have damaged late corn; early planted is so far advanced that the damage will not amount to much.

MIDDLE DIVISION.

Barber (Kiowa).—The hottest week known by old-timers. Corn past help from rain, pastures dry, no stock water. Corn that promised a full crop on the 15th, now will not average more than ten bushels per acre. Late peaches dry and withered on the trees. (Medicine Lodge).—Crops burned up.

Barton.—Hot winds two to four hours nearly every day this week. Corn entirely used up, other crops, such as millet, cane, etc., about the same way.

Cloud.—Hot winds have damaged corn, but impossible to tell just how much. Some bottom fields appear to be in very good condition, while much of the upland, especially the early corn, appears to be beyond hope. Favorable conditions from now on will give us a good half crop.

Cowley (southern part of county).—The corn crop is practically a failure; farmers report possibly one-fourth crop. Kaffir corn is growing right along, millet a total failure, sorghum all right, prairie hay coming in from the "Strip" has a burned appearance. Farmers are plowing for wheat.

Dickinson.—Hot winds four days this week; corn burned up, hay and other vegetation dried up; rain will help late hay but not the corn.

Harvey.—The corn crop which was the best in many years is now a complete failure, all completely burned up; fodder-cutting will be general this week.

Jewell.—Hot winds on four days have destroyed the early corn and hurt the late corn and millet. Apples and plums fair.

McPherson.—Corn more spotted than ever known here; bottom land holds well and with a good rain will yield a

big crop, while upland is very varied, some fields fair, others gone.

Marion.—With exceptions corn is nearly ruined; the hot winds much more damaging than the dry weather; the bottom corn suffering equally with the upland. Pastures are drying up, cane and millet in good condition, late apples falling, some bugs bad on gardens.

Mitchell.—Corn is badly hurt, much of it ruined, but with good rains soon some fields will recuperate. Bottom alfalfa good, upland fair, millet fair, grass light.

Ottawa.—Hot winds three days; early corn generally killed, late corn can stand this a few days longer; alfalfa the lightest for years; will have to rain to get any wild hay; Kaffir corn is standing this weather better than any other crop; apples poor, pastures dry enough to burn, stock being fed.

Pawnee.—Corn is a total failure; Kaffir corn gives best promise for grain and fodder of any crop; millet a total failure; sorghum planted for seed and sowed for feed is poor; mulched potatoes will make a light crop; hay is very scarce, being none except on river bottom and that very short; many apple and cherry trees have died; wild plums plentiful, apples promise fair crop; cattle in good condition, horses in fair condition.

Phillips.—Corn in north half of the county a failure, while the south half may have half a crop if it rains soon; millet gone.

Sedgwick (Mt. Hope).—Corn very unevenly damaged; some fields dead, adjoining fields in fair shape; with rain and favorable conditions one-half a crop may be realized; early corn too near ripe to be total failure; late planted depends on the future. Apples good yield and large sized; tomatoes were absolutely cooked so that the skin would peel; crops injured by excessive heat, not by hot winds. (Wichita).—Corn, early planted and ninety-day are now past danger and good crop; late planted has suffered much since 23d; in spots it is ruined, while some fields are not injured; the crop averages fair. Apples good, peaches none, hay abundant and good quality, oats fair, grapes fine.

Stafford.—A destructive week; the intense heat killed the tassel in many fields, yet along Rattlesnake creek corn is in fair condition. A poor hay crop; sorghum, millet and grass drying up.

Washington.—Corn damaged very much; gardens drying up.

WESTERN DIVISION.

Clark.—Crop outlook very discouraging. No corn except where irrigated. Sorghum and Kaffir corn badly damaged.

Decatur.—Hot winds; early corn is burned to the ground; three-fourths of all the corn is certainly gone and it is safe to say that rains cannot save over 25 per cent. of the crop. Millet and cane fodder nearly gone.

Ford (Bucklin).—Hot winds burning everything to the ground; corn gone; the prairie is brown and would burn; oats and barley a failure. (Dodge).—Hot winds have ruined the crop; the prospective showers to-night may save some, but the greater part of the corn is past redemption.

Graham.—The hot winds of the 26th and 27th wiped out our corn crop; grass all dried up except around springs; no prairie hay for stock.

Haskell.—Hot winds three days; corn is cooked and much cut up and in shock, likewise broomcorn and sorghum; pastures short and dry, water scarce, feed drying up.

Kearney.—Wheat is all harvested and alfalfa seed being put up.

Ness.—Hot winds three days cooked vegetation of all kinds. Unless rain comes soon there will be no feed.

Norton (Dellvale).—Hot and dry, much of the corn gone, grass drying up, pastures very poor, gardens no good. (Lenora).—Severe hot winds; which cooked the corn; no oats or rye; wheat threshing from two to five bushels per acre.

Thomas.—Hot wind cooked much corn; early corn hurt the worst; some corn entirely gone, in other fields the corn is all right; potatoes fair, grass badly burned and needs rain.

Trego.—Hot winds four days; heat

incessant day and night; prairie caught fire on 26th and burned over considerable territory.

Wallace.—Hot wind; some corn left in the northeast and southeast part of the county. Unless rain comes soon there will not be enough feed for stock.

Wichita.—Hot winds; corn burned up, but cane, rice and Kaffir corn all right yet; potatoes fair, oats and barley no good, wheat cut but no threshing yet.

Kansas Swine Breeders.

EDITOR KANSAS FARMER:—By direction of the Executive committee, the annual meeting of the Kansas State Swine Breeders' Association will be held October 5, 1894, at Withita, Kas. An interesting program will be presented. The date fixed for the meeting comes in the week during which the State fair is held, so the breeders attending will have the opportunity to attend the largest hog show in the State. GEO. W. BERRY, President State Swine Breeders' Association.

"The Effect of Spraying With Fungicides on the Growth of Nursery Stock" is the title of Bulletin No. 7, which will in a few days be issued from the Division of Vegetable Pathology of the United States Department of Agriculture. It gives the results of three years' work in the treatment of nursery stock for leaf blight and other fungous diseases. The first part of the bulletin gives the object and plan of the work. This is followed by a discussion of each season's results, and finally a consideration of the cost and profit of the work. It was found that the cost of treating pear, plum and cherry trees three seasons averaged about 85 cents per thousand trees. The profit resulting from this work, as estimated by the nurserymen themselves, ranged from \$1 to \$40 per thousand, the average being \$13 per thousand trees. In other words, at a total expense of 85 cents per thousand trees the average value of the latter was increased \$13.

Attention, Kansas Breeders.

EDITOR KANSAS FARMER:—I, for one, would like to see more "Stock Gossip" in the FARMER. As I am jealous of no breeder on earth I like to read what other breeders are doing, even if they will blow their own horns a little. It is a matter of news to a good many, (don't ride a free horse to death). Tell us about your pigs, your sales and shipments, and who to, whether important or not. The more hogs I see bred in the East the more confident am I, as a rule, we have better hogs now in the West than they have in the East, from the fact that for years we have been taking the tops from there until we have a strain, not distinct, but evidently superior in every way. We doubt if any Eastern herd will ever again visit the great fairs of the West and carry away any considerable number of prizes.

Rossville, Kas. M. F. TATMAN.

Irrigation Conventions in the Sixth Congressional District.

Hon. W. B. Sutton, as President, and Hon. E. D. Wheeler, State Forestry Commissioner, as Secretary, of the Sixth Congressional district, have appointed meetings as follows:

Hays City, August 7, 1:30 p. m.
WaKeeney, August 8, 1:30 p. m.
Gove City, August 9, 1:30 p. m.
Grainfield, August 9, 8 p. m.
Russell Springs, August 10, 1:30 p. m.
Sharon Springs, August 11, 1:30 p. m.
Colby, August 14, 1:30 p. m.
Hoxie, August 15, 1:30 p. m.
Hill City, August 16, 1:30 p. m.

In connection with these meetings there will also be organized county farmers' institutes.

The speakers who will attend and make addresses are Judge J. S. Emery, Lawrence; Prof. Robt. Hay, Junction City; Hon. E. D. Wheeler, Ogallah; Hon. E. R. Moses, President Interstate Irrigation Association, Great Bend; Judge W. B. Sutton, Russell, and others.

The localities which are favored with these meetings—which are non-partisan and strictly for irrigation business—are expected to entertain the invited speakers, also to do the local advertising.

Horticulture.

PREVENTION OF PEAR BLIGHT AND SOAB.

The one great drawback to the production of large quantities of that delicious fruit, the pear, is its liability to blight. The trees are easily grown; they bear at a reasonable age and abundantly, and the fruit commands a high price. But the discouraging feature is the liability to partial or complete and rapid destruction by blight, sweeping away in a few days the work of years.

It is with much satisfaction that we learn that the Rhode Island Experiment Station has apparently found an effective treatment for this destructive disease. In Bulletin No. 27 (March, 1894,) of this station are given illustrated descriptions and notes on the treatment of pear leaf blight.

"Four trees were selected during the season of 1893 for treatment for leaf blight. The treatment given all the trees was essentially the same, and consisted of five applications of Bordeaux mixture prepared by the usual formula. The dates of application were May 9 and 30, June 20, July 11 and August 2. The check trees had their foliage and fruit entirely destroyed by leaf blight, while those treated made thrifty growth during the summer and bore a considerable quantity of large and fair fruit. In every case the treatment given was sufficient to protect the trees from injury by the leaf blight and produce a good crop of fruit, while all other trees standing in the vicinity were attacked by the disease, which caused their leaves to fall and entirely ruined the fruit.

"In order to determine the exact amount of copper which might adhere to the fruit, ten pears which had the mixture still visible on the stem and calyx ends were gathered from a treated tree. These were peeled and a chemical analysis of skin and stems was made. The average amount of copper oxide found adhering to the entire surface of the pear was only 0.016 of a grain. At this rate it would require 62½ pears to contain one grain of copper oxide or approximately the same amount of copper that would occur in 3.14 grains of copper sulphate. It has been shown that 0.5 of a gram or 7.719 grains of copper sulphate per day may be absorbed for some time without injury to the health. This shows that fruits properly sprayed with Bordeaux mixture or any other copper compound are not poisonous.

"Experiments in preventing pear scab were made by S. A. Beach (New York State station Bulletin No. 67, February, 1894,) who says: Experiments were made during 1893 to test the efficacy of dilute Bordeaux mixture against pear scab, and to compare the value of three sprayings with two sprayings before the blossoms open. Since dilute Bordeaux mixture has given such good results when used against apple scab its effect was also tested against the pear scab. No attempt was made to compare the merits of different fungicides.

"Some varieties of pears in the orchard were particularly susceptible to the attacks of the scab, and on account of its presence for several years had produced comparatively little first-class fruit. Two of these varieties, namely, the White Doyenne and Seckel, were selected for the treatment. The White Doyennes were used simply to test the value of the Bordeaux mixture and the Seckel trees were used for the double purpose of testing the Bordeaux mixture and of comparing the value of two and three applications before blooming.

"The Doyenne trees were sprayed May 10, 19 and 31, and June 12 and 28. The Seckels were sprayed May 2, 10, 19 and 31 and June 12 and 28. On July 18 it was noted that nearly every fruit on the lower branches of the sprayed trees was perfect, while on the unsprayed trees nearly every fruit was blemished by the scab. This difference between the sprayed and unsprayed fruit became more noticeable as the season advanced.

"The fruit was picked the fourth week in September and assorted into

three grades—firsts, seconds and culls. "Without counting the cost of the extra packages and handling of the increased yield, the gain from treatment of the Seckel variety was from \$4.77 to \$5.57 per tree, and the White Doyenne \$6.10 per tree. The cost of treatment for six applications was 55.3 cents, and for five applications 47.6 cents. The total gain per 100 trees from the spraying varied from \$423.10 to \$562.40. The increased value of the fruit does not express the entire gain, as the foliage of the sprayed trees was much more healthy than that of the unsprayed, and the sprayed trees made a much better growth.

"Illustrated notes are given on the cause of the pear scab. The number of sprayings profitable in an ordinary season has not yet been definitely determined, and no doubt in rainy seasons more frequent applications and stronger solutions will be found necessary than in dry seasons, but it is probable that the amount of copper sulphate can not be profitably reduced below one pound to eleven gallons of mixture. Directions are given for the preparation of Bordeaux mixture, and suggestions as to the weighing and straining of lime. The author recommends the potassium ferrocyanide test, showing an excess of lime, as more convenient than that of weighing. He prefers the use of fresh Bordeaux mixture, but conducted experiments on a stock solution of copper sulphate, and found that for all practical purposes a solution containing two pounds of copper sulphate per gallon may be safely used. Two gallons of such a solution would make forty-five gallons of Bordeaux mixture.

"The author's summary is as follows:

"(1) In these experiments pear scab was successfully treated by dilute Bordeaux mixture containing four pounds of copper sulphate to forty-five gallons of the mixture.

"(2) Comparing three treatments after the buds begin to open and before the blossoms open with two treatments during the same period, it is still doubtful whether enough benefit may be gained from the former to justify the expense of the extra treatment.

"(3) In order to treat pear scab successfully the spraying must be done thoroughly and at the right season.

"(4) The benefits of the treatment extend to the tree as well as the fruit, as shown by the increased vigor of the foliage and fruit on the sprayed trees when compared with the unsprayed trees."

How to Keep Sweet Potatoes.

"In the first place," says A. W. Poole, in the *Journal of Agriculture*, "to keep sweet potatoes you must have a cellar that will never get below 40° above zero. This can be done by building two walls sixteen inches apart of wood, or two stone walls with six inches space between them, and fill in between the walls with dry sawdust. Drop ceiling overhead one foot below top of wall, cover six or eight inches with sawdust overhead. A cellar built on the above plan will not go below 40° above when closed, if the thermometer drops to 15° below outside for ten days.

"All the ventilation your cellar needs is the door to go in, and a three-foot drop door in each end of overhead ceiling for a 20x50-foot cellar, which, with twelve-foot walls, will hold 5,000 bushels.

"Divide inside of cellar into slatted stalls six feet wide, three to four feet deep, giving a foot space between stalls. If stalls are one above another, leave six-inch space between top of first stall and so on. For a large cellar 20 or 30 by 50 or 75 feet, leave a three or four-foot hall lengthwise through cellar, and build bins on each side of hall.

"Dig potatoes when ground is in good condition to plow, if possible. Handle carefully. Do not bruise them, and take immediately to cellar and put in bins, three or four feet deep. If ground is wet sun awhile, so that the dirt will slip from potatoes. You must handle sweet potatoes as if they were eggs, if you expect to keep them well, and put at least three feet deep in stalls. Put nothing around, over or under them. Leave free to air.

"After you have built cellar and put

in your potatoes as I have instructed, then comes the most dangerous part yet. Every night or day that the thermometer registers 40° above, but mostly at night if possible, keep all ventilators wide open; but should it get above 65° outside close all ventilators tight, for if you let hot air in your cellar it will condense or cause potatoes to get wet (called sweating). Always keep both top ventilators open the same, unless below 25° above, or 65°. Keep as near 45° or 50° inside as possible. But be sure to never let any part of the cellar stand open when the air outside is 15° warmer than inside. This hot air not being allowed to strike the cool potatoes or walls, and condensing is the whole secret in keeping them. Cool or cold air will go all through them, and drive out all the moisture, but hot air will not. Build cellar large or small, owing to the amount you have to keep, but always put potatoes at least three or four feet deep in bins. I have not been without sweet or Irish potatoes a day for eight years, and the above is my mode of keeping. I have 260 acres this season."

Fresh Sprouts of Experience.

(From American Gardening.)

For worms in soil use lime. Don't water unless you do it thoroughly.

For much of the cultivation they receive, plants are indebted to weeds.

No continuous supply of vegetables is possible without continuous planting.

You can always notice this—the closer the garden is to the house the closer the attention it receives.

Mark: The best time to engage in any special branch of business, vegetable and fruit growing and forcing included, is when your competitors are getting scared out of it by low prices.

The Columbian White asparagus, says the *Rural*, is among asparagus varieties much what White Plume is among celery varieties. If so, it must be one of the really valuable novelties.

What distance for Swede turnips? In several comparative trials made by Ontario (Canada) Experiment Station best results were obtained from sowing turnips in drills twenty inches apart, and thinning to eight inches apart in the rows.

The Ponderosa tomato grows to perfection here if we have moisture enough. They have no superior for slicing or canning. They are very large, perfectly smooth, rich in flavor and ripen very evenly.—F. C. Johnson, Hastings, Neb.

Among the new ideas under the sun which came to my observation while on a trip through Arkansas, was the flour and meal manufactured from sweet potatoes. It makes a very sweet and toothsome dish. These potatoes grow very large, and are so full of saccharine matter that when baked it forms like molasses on the bottom of the pan.—F. C. J.

Baltimore *Trade* says that the expected advance in tomatoes as summer approaches does not seem to be assured. They are selling at lower prices than they did at any time last year. This cannot be attributed to heavy receipts of Southern raw tomatoes, for they are in less supply. The probabil-



A Bright Lad,

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

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

AYER'S Sarsaparilla
Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.
Cures others, will cure you

ities are that packers who have been holding are getting all the cash together that they can to permit them to go in on new packing of some kind. The belief that canned corn has reached its very lowest prices has had something to do with the lack of demand for tomatoes, for all reports agree that corn has been moved, distributed and consumed to an extent that has greatly relieved the market and improved the outlook for it.

PATENTS Thos. P. Simpson, Washington, D.C.
No attorney's fee until patent is obtained. Write for Inventor's Guide.

Do Not Decide

Now but send a postal card to-day to **BUREAU OF IMMIGRATION, Spokane, Wash.** for printed information about the opportunities and special offers given **FARMERS** by this great and prosperous state.

Davis International Cream Separator, Hand or Power. Every farmer that has cows should have one. It saves half the labor, makes one-third more butter. Separator Butter brings one-third more money. Send for circulars.



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Invest Your Savings Safely!

\$25 CASH and \$10 per month until paid, at lowest legal rate of interest, will buy CHOICE lots in my beautiful **AVONDALE** Addition, Spokane, Washington, at one-half their price one year ago, and way below their value at the present time. They will sell at double the price in two years, but I need money and will sell 100 lots and no more on above conditions and terms.

Population of Spokane about 36,000; good churches, fine schools, six railroads, gas-works, water-works, great water power, elegant street car service to all parts of the city, fine public buildings, in fact a city that is destined to be the metropolis of the great Northwest inside of ten years.

Avondale is situated within fifteen minutes' ride of the postoffice, on the best electric line in the city, and overlooking the beautiful Spokane river and valley, and full view of the distant mountains.

For prices and further information address my agents, **ARTHUR D. JONES & CO., Spokane, Wash.,** or **WILBUR E. CAMPE, Owner, Kansas City, Mo.**

ROOFING \$1.50 per 100 Square Feet!

All complete. Ready to apply, including Red or Black Paint! Anyone can put it on. Absolutely water-proof. Strong and durable. Put up in rolls of 250 and 500 square feet each.

For Wood and Shingle Roofs, Barns, Out-Houses, Etc., Etc. In barrels, 40c; ½ barrels, 60c. 5 and 10 gallon cans, 60c. per gallon. **WE PAY THE FREIGHT!** Samples; mention this paper. **W. E. CAMPE ROOFING & MFG. CO., Kansas City, Missouri.**

RED AND BLACK CREOSOTE PAINT.

Guaranteed to outlast any cheap paint made. Write for circulars and samples; mention this paper.

In the Dairy.

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

Oleomargarine.

You all have heard of oleo.
The stuff that's made of lard.
One finds it stacked up very high
In the packing house back yard.

It's made of grease they call refuse,
And a quantity of cotton seed oil,
To which is added tallow and suet,
And the mess put on the fire to boil.

And should the rats about the place
See fit therein their nests to make,
Yes, also mice, cockroach and flies,
And now and then perchance a snake:

No effort is made them to extract,
For cleanliness there is no thought,
They all go in as grease and fat,
The price it brings is the object sought.

It is then boxed and label'd well,
And without a grin or a mutter,
The maker puts it on the market to sell
For genuine fresh cow butter.

Now every man that knows their stuff,
And if he's clean and neat,
Wouldn't give 3 cents a wagon load,
If he their stuff should eat.

The wicked man who makes this fraud,
Is a traitor to their land,
So, arrose! you honest dairymen
And form a contraband.

Prohibit the selling of the mess,
Competing with pure butter,
Let them sell it for what it is,
Or throw it in the gutter.

Organize, you dairymen!
Solicit the aid of the press!
And work in unity and strength
This nuisance to suppress.

Compel the men who make this cheat
To launch their ship and float
To other lands beside our own;
You can do so with your vote.

Then banish it clear from our land,
So it never more shall be seen,
And put an end to the bogus stuff
Commonly called "oleomargarine."
—C. F. D., in *Farm and Dairy*.

The Jersey in North America.

(Prize essay by John Duncan, Louisville, Ky.)

When Jersey cattle first began to appear to any marked extent on the farms of the United States they were on sufferance, and it was customary for a farmer who bought one to say, by way of apology, that he took the weak step out of regard to the feelings of his wife. Better peace-offering to the Goddess of Liberty never was made. So strong at the outset was the prejudice among country people against the Jersey that, some time after she was an acknowledged feature of rare beauty on the suburban lawns of the rich of our large cities, many farmers would not acknowledge that she had even this practically unimportant merit; and as for utility, that was regarded as wholly out of the question. Now, almost every well-organized farm, on which the head of affairs and his family rise above common drudges, has on it some Jersey blood—the pure article with increasing frequency, and with good grades in plenty. The truth is that the Jersey is now in nearly all parts of North America the sign and accompaniment of improved living; this, in turn, in a general way, giving rise to better thinking and more progress and prosperity.

It is not a word too much to say of the Jersey that the era of good butter-making on this side of the sea began with the establishment of the American Jersey Cattle Club. Previously to that, which was done in the year 1868, much good service was rendered, but there was no organization and no security against, or authoritative means of penalizing, fraud. To-day, through the intelligent work of that club and its system of registration, the absolute purity of the Jersey is better guarded than that of any other breed of live stock whatever; and the great little cow has been lifted from a position in which she was the butt of the coarse stock-yard and show-ring wits and bulies into the place of first honors among her kind, she being of the only breed of cattle that, in recent years, has uniformly earned enough to pay for its keep. It is to be noted here, as an important economic truth to be remembered, that at no time in these years of general loss and depression in the cattle industry has the Jersey, under anything like fair care, failed to pay a good interest on a generous, not infrequently even on a fancy, investment.

It is still fresh in the recollection how many urged that the introduction

and spread of the Jersey would, beyond what was possible to other breeds, spoil all the good beef and do great injury to the country at large. That was a mistake, for at the present time the beef is as good as ever it was, and the butter all over North America is incomparably better. And the end for good on account of the Jersey is not yet, and will not be until bad butter is everywhere a disgrace to the maker and the good, pure article, sweet as a nut and colored by nature as only Jersey butter gets colored, is on every table.

In the train of the Jersey on this continent have come many industries, giving honorable and profitable employment to large numbers of men and women; and among the other good results accomplished through the agency of this great little cow is the raising of the standard of labor on every farm on which she has established herself. She is the product of intelligence and kindly care, and when these are given her she will pay handsomely for them, rapidly retrograding and answering to all the ugly things said of her in ignorance or narrowness whenever and wherever these are denied. That in the main the Jersey is perfectly suited to her adopted home in the new world is completely evidenced in many ways—in her extensive distribution in this country, where all costs are counted (and the battle between her friends and her enemies commenced early and has gone on without pause to the present time), in the wonderful results to her credit under actual tests the most severe and exacting—so that there are many competent authorities who take the position that the Jersey with us is better and will yield more than the Jersey on her native island, and that, therefore, it is folly and without a rational objective point to continue to import. Be this as it may, the Jersey is now one of the fixed institutions of North America, beautiful to look upon, lending her powers in the most beneficial way to the man of large as well as to the man of small means—a perfect machine of the highest utility in a well-defined sphere. The wonderful capability which the Jersey shows of adapting herself to the widest sort of climatic and other conditions are really to be inferred from her surprising productive powers; for in both cases what is wanted to produce these results is not mere strength, but a high order of vitality; and this she has, and this it is that is enabling her to go and establish herself wherever there is civilization.

Butter Fat and Butter.

An exchange says that theoretically one hundred pounds of milk that tests 4 per cent fat will yield more than four pounds of butter, but that practically it does not, or at least not always. Practically it does if the butter-maker understands his business. When the cream is raised by gravity much of the fat is lost in the skim-milk and consequently the yield of butter is cut down, but in a creamery where separators are used a pound of fat in the milk should always make more than a pound of butter, and if it does not it is pretty good evidence that the butter-maker does not understand his business as he should.

About Milk Fever.

It is a mistaken idea that cows should go dry two or three months, as many valuable animals are injured by forcing them to dry off when they should be milked to nearly calving time. Cows that never go dry, or only for a very short time, are not so liable to milk fever as those that have not been milked for six or eight weeks. In the latter case the udder becomes very much distended, and unless relieved of the accumulating milk several days before coming in, apoplexy is liable to be the result. Fat cows and large milkers are more liable to this disease than thin ones, and cows that have a tendency to put on flesh just before calving time should be put on short rations. Several cases have been noted lately where cows that had been dry several weeks and were carrying too much flesh were stricken with this fatal disease, from which not more than one in twenty ever recovers.

The Dairy Cow as a Thermometer.

From Circular No. 8, an interesting and instructive little volume issued by the American Short-horn Breeders' Association, of Springfield, Ill., devoted mainly to the Short-horn in the Columbian dairy test and show ring, we glean the following paragraph of practical application to all dairymen:

"One of the truths illustrated in the dairy tests was the susceptibility of the cows to heat and cold. In some instances where there would be a sudden change in the atmosphere, from a hot to a cold day, especially if it was windy and chilly, and that, too, with but little, if any, diminution in the quantity of milk, there would be a great falling off in butter. Of course, it is a well-known fact that animal heat will be supplied from within when not supplied from without, but that a milch cow should prove such a susceptible thermometer was a notable event. Is it any wonder that milch cows, with the treatment accorded them by so many farmers, prove such failures in winter?"

The above lesson should be kept in mind when the cow is subjected to the burning heat and parched pastures of "dog days," and more especially when the raw winds and storms of winter set in.

Dairy Notes.

Feed shade to the calf.

Last call for fodder corn for the cows.

Lots of butter-makers are simply spoiling good raw material.

The flavor of cheese and butter largely determines the price.

The herd should be carefully watched for the horn-fly. A few timely applications of fish oil and tar will save a vast amount of annoyance as well as an expensive shrink in dairy products.

To wash milk pails, cans strainers, etc., they should be first rinsed in lukewarm water, next washed with hot water, and then scalded, after which put them in a nice place to air and dry.

The Poultry Yard

Women as Poultry-Raisers.

EDITOR KANSAS FARMER:—Much has been said in regard to woman as being a natural poultry-raiser. Yes, they are, and are getting more and more so every day as they find out what they can do. The business of raising poultry being light work and easily managed, is especially adapted for women. It takes considerable patience to raise the chickens to the best advantage, and it is for this reason, principally, that women succeed so well.

Some of our best and most successful poultry fanciers are women. Some have taken hold of the business and pushed it right along as it should be, and are now not only making an independent living from their fowls, but are laying up considerable money besides. Women can advertise and sell fancy stock just as well as men, or they can simply raise the fowls for the common market in large numbers and clear a handsome profit in this way.

Large numbers or early birds cannot be raised without an incubator, and as many good ones are made nowadays, and can be bought reasonable, with a small capital a nice business can be started, and as the artificial raising of poultry is daily increasing in popularity and it is a business that is suitable for all classes of people, it can be conducted by the clergyman as well as the farmer or fancier. We could write pages on this subject but will give you a rest for this time. J. P. L.

Preparing Green Food for Fowls.

EDITOR KANSAS FARMER:—First, as we all know, poultry lay best through the summer. Why? Because they can get bugs and insects that take the place of fresh meat. Then they get plenty of green food, which it is necessary that they have to produce eggs. Then, instead of feeding dry food through the winter, prepare green food to feed at that season, and get plenty of eggs when they bring a good price. Now, to do this,

you can cut up green clover (second crop is the best if you can get it). Cut up into lengths of three-eighths of an inch and press in coal oil barrels. It will keep in good condition till it is fed out. Take, for fifty fowls, four barrels, and burn them out; then take a building jack-screw, place in the barrel about fifty pounds, press down as tight as possible; then take a little pulverized charcoal and sprinkle over the clover, then put in more clover and press firmly with jack-screw, until the barrel is full; then head up the barrel and roll it out alongside the poultry house, where it will be most exposed to the sun, and cover with a light covering of horse manure. Leave it covered for thirty days, and during this time it will pass through the state of fermentation. The barrel should then be moved to a dry place, and about December first begin to feed it; (for fifty fowls about five pounds), adding equal parts of corn, oats and bran, then thoroughly scald. People living in town that cannot get the clover there can take their barrels and go into the country and for one dollar buy enough clover in the field for fifty fowls. Therefore, you can keep your hens just as cheap through the winter as you can through the summer. The hens will lay all winter and you will be well paid for your trouble. Try it.

J. P. L.

EDITOR KANSAS FARMER:—I would like the following question answered in the Poultry column: Should thoroughbred Barred Plymouth Rocks have feathers on legs or not? G. W. S.

Answer.—No, they should not have feathers. The Plymouth Rock has a smooth, clean, yellow leg. Every poultry fancier should have a "Standard of Perfection," which will tell you about every breed. Send \$1 to this office and get one.

Poultry Notes.

The great secret of success with poultry is loving them so that it is a pleasure to care for them.

The cheapest cholera medicine is to build portable houses, so that they may be frequently moved to clean places.

When shipping dressed fowls be sure that all the animal heat is driven from the carcasses before they are packed.

Give the boys and girls a chance to raise chickens and see what they will do. It often keeps them out of bad company.

Poultry that is to be used on the table, if confined and fed on corn and clean water a few days, it will be found that the flesh becomes sweet, juicy and tender.

To procure eggs avoid overfeeding and feed plenty of ground bones, scalded bran, oat and barley meal, and milk mornings and a change of whole grain at night.

Chopped onions are the best green food that can be fed to fowls, both old and young. Onions are not only invigorating, but are excellent when the fowls are subject to colds.

Do not be afraid of overdoing the poultry business, for eggs are imported into this country every year, and neither the egg nor poultry market has ever been known to be glutted.

For roup, dissolve a teaspoonful of chloride of lime in a pint of water and give the bird a teaspoonful of the solution. Burn tar and turpentine in the hen-house after the poultry has gone to roost at night.

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Specific for Epilepsy.



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GENTLEMEN—Our boy is getting there all right—has not had a single fit since taking the first dose of your magic-like medicine two years ago. He had spells 2 or 3 times a week—some weeks 5 or 6. Long live the
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The Family Doctor.

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

BAD EFFECTS OF TOBACCO.

(Continued from last week.)

WHO SHOULD NOT SMOKE.

For the same reason no one with decayed or broken teeth or dental plates that rub the gums or cut the tongue or mouth should either smoke or chew, for either of these may be the fatal starting point. I have the records of five cases of epithelial cancer of the lips and tongue, four of which occurred in great smokers. Mrs. Gen. U. S. Grant told me, in 1886, that Gen. Grant's fatal case of throat disease began by his abrading a spot in the pharynx with the rough skin of a peach he was eating, and I have but little doubt that constantly bathing this abraded surface with tobacco smoke and tobacco-laden saliva, while his blood was already drenched and saturated with tobacco poison, did its fatal work for him.

Further, tobacco certainly acts as a depressant to feeble people, and lowers their stamina, and such persons with a cancerous diathesis or a scrofulous constitution should not use it in any form, for in all such subjects the delicate pulpy tissue of the mouth, throat and nose is very prone to inflammatory action, and also to ulceration from smoking or chewing, and in a large proportion of cases these degenerate into or light up the affection their predisposition or constitution indicates; more liable to catarrhal ailments of the upper air passages; and I am quite sure that all throat and nose specialists will agree that tobacco has a softening and relaxing influence on the mucous membranes of the mouth, throat and nose, in many who attempt its use, and induces catarrhal and other affections, and it is unwise for certain varieties of defective people to risk its bad effects.

Neither can persons suffering with any form of neurasthenia smoke or chew without injury, and yet these are the very persons who oftenest have the furor tabaci; some smoking innumerable cigarettes, or lighting one cigar after another until they smoke six, eight or a dozen a day.

THE TOBACCO COUGH.

Smoking also creates in some persons a persistent hacking cough, due to tenacious mucus that accumulates in the pharynx and larynx, dependent on a morbid, infiltrated condition of the tissues of the palate and throat, which often degenerates into a condition that closely resembles clergyman's sore throat or into diseased throat and post-nasal catarrh combined. I make an emphatic interdiction of tobacco in all such cases.

Besides the classes I have spoken of, whoever else finds that tobacco is injuring him should stop its use; but, unfortunately, many of those it is affecting never realize that it is doing them any harm, attributing all their ailments to other causes.

The habit of swallowing tobacco smoke and then expelling it through the nose, and also of coughing it into the lungs, are both very injurious, as they irritate and dry the mucus membrane of the pharynx, larynx and trachea, and subject them to the various tobacco affections. Blowing it through the nose is also harmful, as it is a fruitful cause of the hypertrophic thickening of its mucous membrane so often discovered in smokers, and the sense of smell is also greatly impaired by smoke-blowing.

With feminine smokers and chewers I have had no experience, and with snuff-pinchers and snuff-rubbers but little; but I have encountered two cases of nasal polyplip females due to the use of snuff, which is less astonishing when we remember that all tobacco dust has a notoriously irritating affinity for the Schneiderian mucous membrane.

HOW TO ESCAPE DISEASE.

I can usually distinguish the oral cavity of the person who carries smoking to excess by the dusky red, velvety or hyperæmic appearance of the lining of the mouth, throat and nose, and by the throat becoming irritable and hoarse upon every extra effort in speaking and singing.

Tobacco cautiously used is certainly a charming pleasure in ripe manhood, and a solace in old age, and is rather beneficial than otherwise to thousands of healthy but careworn and toilworn people, and also to tens of thousands of soldiers, sailors and other idle people on whose hands time hangs heavily; and were one to ask me how to get the good out of it without risking the bad, I should advise him, among other things, to avoid smoking another's pipe, for fear of contracting disease—the largest indurated specific sore I ever saw was on a colored man's lower lip, contracted from another's pipe; also, never to even smoke his own after it had become blackened and oil-soaked, and also never to light a stale stump or habitually smoke a short-stem pipe.

A cigar-smoker or a cigarette-holder, or

a new or freshly-burned clay pipe, in point of safety and cleanliness, is far superior to putting mouth-to-weed in smoking, and one's whole mouth and throat should be thoroughly cleansed with water after every smoke. * * *

I am positive I have seen more than one unripe devotee stunted in body and mind, and I could at this moment name half a dozen young men and boys who are injuring their throats and noses with cigarettes, who will later in life have granular or follicular pharyngitis, somewhat akin to clergyman's sore throat, with an annoying discharge of mucus from the posterior nares into the throat, with relaxed tickling uvula, which may hang on for years, and neither get well nor kill, but be an annoyance to himself and to every one around.

I have observed but few youths whose sensitive mucous linings could endure tobacco's toxic influence without showing symptoms of weakness, morbidity and disease; and were I to recast our pharmacopœia, I would not only call hyoscyamus hiansbane, aconitum wolfsbane, and arsenic ratsbane, but would be strongly tempted to give tobacco the synonym of youthsbane.

TOLD BY THEIR LOOKS.

If any one considers this indictment overdrawn, let him stand where he can see a constant stream of passing men, boys and youths, and carefully scan all the immature and sickly devotees who pass with cigar, pipe, cigarette or quid in mouth, and he will soon detect written on many of their faces and figures the unmistakable signs of tobacco cachexy—some with pale, sharp, wizened visage, round shoulders, shuffling walk and anxious, nervous, tell-tale addresses; others with complexions stained an ugly green or a dirty yellow, or a dusky bronze color, as if their blood were turned to a greenish or yellowish fluid instead of the natural red.

The mouth, throat and nose of a healthy person have a clean, smooth, pale, pinkish or lilac hue. Examine these tobacco mouths, throats and noses, and you will find every part unclean and ugly; probably a mouthful of saliva, as offensive as a bar-room spit-box, that must be either expectorated or swallowed before you can begin to examine; tongue furrowed, teeth incrustated with a dirty, scurvy-like, greenish deposit; the buccal surface of the cheeks either in a state of active or sluggish congestion; gums, palatine arches, velum palati, pharynx, epiglottis, larynx, Schneiderian membrane and all the other soft tissues turbid and injected, or velvety, granular, purple, with hyperæmia, and streaked with mucus, instead of being a clean, natural red.

Some of this tobacco throng will present cases of ozena, others catarrh of the throat and nasal passages, buccal inflammation, epiglottis, relaxed and tickling uvula, chronic tonsillitis, laryngitis, trachitis, hoarseness or nasal twang in talking, due to thickening within the larynx, loss or impairment of the smell, rotten breath, etc., which can be easily interpreted by the experienced; and I risk nothing in asserting that 5 per cent. of all constant smokers and 10 per cent. of all constant chewers, and 25 per cent. of all who constantly do both are affected with one or another of these affections, and not 30 per cent. of immature and sickly smokers' throats and noses will be found in a perfectly normal condition.

In conclusion, I believe the majority of those who arraign tobacco, from King James in 1641 down to the cranks of to-day, draw their indictments entirely too heavy. Personally I have little or no prejudice against the proper use of the weed, either in smoking or chewing. Nor would I dare to say that every votary of tobacco is injured or is on the road to ruin.

Life is short, and every one should get all the rational, harmless enjoyment out of it he can; and while I am perfectly willing to agree that some can use either mild or strong, good or bad tobacco very freely and experience no ill effects, I am also quite positive that it is highly injurious to the upper air-passages of all youths, and also to numerous adults, and that to some of these the free use of even the mildest and best tobacco is almost akin to suicide; and I think that we as physicians should counsel all growing youths to shun it entirely, and every adult with defective stamina or a tendency towards any organic disease or a bias for any cachexy or an inclination towards any affection of the throat or nose, either to let it alone forever or to determinately limit its use to a harmless quantity. —William T. Cathell, M. D., Baltimore, Md., in New York World.

The Weekly Kansas City Star

Addresses the farmer as a business man and a citizen. Doesn't tell him how to farm, but how to sell, and where and when, and keeps a vigilant eye upon his rights as a shipper, a producer and a tax-payer. All the news, too, and plenty of "good reading" for the family. Now read in 100,000 farm houses. Fifty-two big eight-page newspapers for 25 cents. To any one who sends the Weekly Star five yearly subscribers, together with \$1.25, the paper will be sent one year free.

Alfalfa—Saving the Seed.

EDITOR KANSAS FARMER:—I have been watching the different agricultural papers and carefully noting what is said on alfalfa culture, and almost all have different views and each seems to think he is right, and I believe they all write from experience. Therefore, with your permission, I will only offer at this time a little advice and some time in the future will give you my experience. Alfalfa is new to most of us and we all have our personal ideas and theories. These must be satisfied before we are ready to be advised by persons who have had experience.

Kansas is a wonderful State and is capable of producing almost any kind of a crop and under favorable conditions in such abundance as to be almost incredible, and I believe that alfalfa is destined to surprise more people with big yields and larger profits than any other crop, especially in the west half of the State. At the same time, there will be many disappointments.

There is no fixed rule to govern in seeding land to alfalfa, and to new beginners I would say, don't try to revolutionize things the first year, but try what you can afford to lose in case of failure, for failures are the rule rather than the exception. Use good judgment and lots of perseverance, and in the end you will succeed. Some unfavorable conditions must be expected. For spring seeding, late frosts, weeds, heavy dashing rains, hail, drought and grasshoppers. For fall seeding, drought and hoppers.

Now, to those who have succeeded in getting a good stand. I have noticed no suggestions on handling the seed crop and will volunteer my experience on this for the last twelve years. I find that the seed crop can be largely increased by having a few stands of bees to work on the bloom and distribute the pollen. Do not use a mower for cutting, but as soon as a majority of the heads are a brown color cut with a binder, and do not bind too tight; shock in long shocks, two and two. As soon as it is sufficiently cured, and if convenient, haul and thresh it so as to have the straw stack where it will be handy to feed. Handled in this way there is no waste of seed and the straw will make as good feed as hay. If time and twine are more of an object than the straw for feed, use the header without elevator; run it off on the ground, then have a two-horse rake follow and bunch it before it dries. In this way two men with six horses can handle twenty acres per day without any waste of seed. If the crop is not lodged it is necessary to cut only low enough to get all the seed, and by using the two-horse rake there will be no tramping on the swath. Handled in this way I have been able to realize ten bushels per acre in the dryest season without irrigation. JNO. ARMSTRONG. Great Bend, Kas.

Missouri Valley Horticulturists.

EDITOR KANSAS FARMER:—The July meeting of the Missouri Valley Horticultural Society met at the home of Maj. Frank Holsinger and was well attended. The day was all that could be desired for a picnic. The dinner was sumptuous and fully enjoyed.

Of the fruit displayed there were many varieties of summer apples, large and beautiful, free from ravages of insect enemies. Several varieties of plums, also of blackberries, gooseberries and raspberries. Of flowers, the display excelled that of any previous meeting of the year.

Excellent papers were read. The first was by Senator Edwin Taylor, on "The Educational Needs of the American Farmer." I wish to see it in your paper later. It was a gem of thought from a master. E. F. Esplenlaub had a most valuable paper on the "Grape and its Diseases." Mrs. Sam Ely read a paper on "Tobacco," while Mrs. Fannie Holsinger came with a paper on "Woman's Sphere."

The entire afternoon was spent in hearing the papers and discussing them. As the latter paper was devoted to the past, present and future of women, the possibilities growing out of her equality when she becomes a "fellow citizen" through the suffrage

amendment, its adoption was heartily supported by all. On this question horticulturists are a unit. The justice of equality on the part of our mothers, wives, daughters and sisters is never questioned by our intelligent horticulturist.

One distressing feature was in the reported diseased condition of the apple on the grounds of Maj. Frank Holsinger and others. The Major was inclined to pronounce it leaf blight, but the prevailing opinion was it was due to the influence of the copper smelter at Argentine. For two years damage has been reported by persons in this vicinity. The Major reports 1,000 apple trees full of fruit almost entirely denuded of foliage. These are mostly of the Ben Davis and Jonathan varieties. Several other orchards in this vicinity are similarly affected. X. Y. Z. Rosedale, Kas., July 22, 1894.

PROPOSED AMENDMENT TO THE CONSTITUTION.

Substitute for Senate Joint Resolutions Nos. 1 and 2.

Be it resolved by the Legislature of the State of Kansas: two-thirds of the members elected to each house thereof, concurring therein.

SECTION 1. The following proposition to amend the constitution of the State of Kansas is hereby submitted to the qualified electors of the State for their approval, or rejection, namely: That section one, article five of the constitution of the State of Kansas be amended so that the same shall read as follows: "Section 1. Every person of the age of 21 years and upwards belonging to the following classes, who shall have resided in Kansas six months next preceding any election, and in the township or ward in which she or he offers to vote, at least thirty days next preceding such election shall be deemed a qualified elector. 1st: citizens of the United States. 2d: persons of foreign birth who have declared their intentions to become citizens of the United States conformable to the laws of the United States on the subject of naturalization." SEC. 2. This proposition shall be submitted to the electors of this State at the general election of the Representatives to the Legislature in the year eighteen hundred and ninety-four, for their approval, or rejection; those voting in favor of the proposition shall have written or printed on their ballots "For the suffrage amendment to the constitution;" those voting against the said proposition shall have written or printed on their ballots "Against the suffrage amendment to the constitution;" said ballots shall be received and such vote taken, counted, canvassed and returns made thereof, in the same manner and in all respects as provided for by law, as in the case of the election of Representatives to the Legislature.

SEC. 3. This resolution shall take effect and be in force from and after its publication in the statute book.

I hereby certify that the above resolution originated in the Senate January 16, 1893, and passed that body February 8, 1893.

FRANCIS DANIELS, President of Senate. W. L. BROWN, Secretary of Senate.

Passed the House March 1, 1893. GEO. L. DOUGLASS, Speaker of House. FRANK L. BROWN, Chief Clerk of House.

Approved March 6, 1893, 8:50 p. m. L. D. LEWELLING, Governor.

STATE OF KANSAS. OFFICE OF SECRETARY OF STATE, ss. I, R. B. OSBORN, Secretary of State of the State of Kansas, do hereby certify that the foregoing is a true and correct copy of the original enrolled resolution now on file in my office, and that the same took effect by publication in the statute book May 18, 1893.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my official seal. Done at Topeka, Kansas, this 25th day of July, A. D. 1894. R. B. OSBORN, Secretary of State.

W. L. DOUGLAS \$3 SHOE IS THE BEST. NO SQUEAKING.

\$5. CORDOVAN, FRENCH & ENAMELLED CALF. \$4.35 FINE CALF & KANGAROO. \$3.50 POLICE, 3 SOLES. \$2.50 \$2. WORKINGMENS EXTRA FINE. \$2.15 BOYS SCHOOL SHOES. LADIES. \$3.25 \$2.15 BEST DONGOLA. SEND FOR CATALOGUE W. L. DOUGLAS, BROCKTON, MASS.

You can save money by wearing the W. L. Douglas \$3.00 Shoe.

Because, we are the largest manufacturers of this grade of shoes in the world, and guarantee their value by stamping the name and price on the bottom, which protect you against high prices and the middleman's profits. Our shoes equal custom work in style, easy fitting and wearing qualities. We have them sold everywhere at lower prices for the value given than any other make. Take no substitute. If your dealer cannot supply you, we can.

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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.

PREMATURE BIRTH.—Will you tell me the cause of my sow pigging before her time? She was not due to pig for two weeks yet.

Answer.—Your sow may have received some injury unknown to you, or there may have been some impropriety in her diet. Premature birth sometimes takes place without any apparent cause.

SNAKE BITES.—I have four horses that were all snake bitten on their noses on the same day; some are swollen worse than others. I have been using lard and soda mixed together.

Answer.—Treatment for snake bite, be effectual, must begin soon after the bite has been received. Two ounces of whisky and half an ounce of aqua ammonia in a pint of water should be given every hour, and the wound should be bathed as often with equal parts of ammonia and water.

PIGS TREMBLING.—Please tell me through the KANSAS FARMER what ails my pigs. They commenced trembling soon after birth and have kept it up ever since, except when asleep.

Answer.—As you say the pigs are healthy and growing the trouble is likely due to some impropriety in the feed or surroundings of the sow.

UMBILICAL HERNIA.—I have a mare colt, 4 months old, with a rupture where the navel came off. I threw the colt, and after putting the intestines back, tied a string around the sack.

Answer.—Such cases are generally easily handled by one who understands it. You probably did not get the string high enough; or, the opening in the walls may have been too large to close with a string, and should have been closed by clamps, which can be made to include a larger space.

FISTULOUS ABSCESS.—I have a mare that, after her colt was weaned last year, had a gathering on one side of her bag. It broke, then healed; but before she had her colt this spring it gathered and broke again, then healed up.

Answer.—There is a fistulous abscess in your mare's udder, the lining membrane of which must be removed before the abscess will heal. There may also be some part of the abscess lower than the outlet; if so it should be opened.

PECULIAR DISEASE IN COWS.—Last winter one of my cows got stiff and walked with front legs spread apart; she stepped short and humped her

back. This continued for about two months and then she got all right. This summer I have two more attacked in the same way and some signs of it in others. They are suckling calves and growing very thin. They have good appetites and eat and drink well. Can it be rheumatism?

Answer.—If you have given all of the symptoms the case is certainly a little peculiar. Have you made a thorough examination of their feet? Cattle sometimes get very sore about the heels and between the toes, making them go lame and lose flesh.

Gossip About Stock.

Wm. Plummer, Osage City, reports the Maple Grove herd of Poland-Chinas in good condition, even though the corn crop is badly hurt.

SPECIAL OFFER TO NEW SUBSCRIBERS.—We will send the Breeder's Gazette until January 1, 1895, for only 50 cents. This includes the celebrated Christmas or holiday number of that paper, which is worth the price alone.

James Donald, Lowry, Mo., bought of Sannon Hill herd of Short-horns, owned by Hon. G. W. Glick, Atchison, Kas., ten cows and one bull, the Duke of Richmond, straight Kirklevington.

E. L. Knapp, Maple Hill, reports: "My stock is all doing nicely. Among my recent sales are the following: One bunch of six fine heifers to Mr. W. E. Tatman, of Harper, Kas.;

The Chicago horse market is somewhat improved. One hundred and seven horses sold for \$7,725, and the next day 146 horses sold for \$10,415, and thirty-seven sold at private sale for \$2,535.

The Texas Stockman tells of a prominent stockman and farmer that has been experimenting with cottonseed meal as a feed for hogs and the result has proved very satisfactory so far.

W. L. Chaffee, manager of Shannon Hill stock farm, owned by Hon. G. W. Glick, Atchison, Kas., recently purchased a magnificent Bates Short-horn bull to use on his herd, from Mr. Wm. Miller, of Storm Lake, Iowa.

Fine rams visited eastern Kansas the early part of this week.

In freezing weather fill twelve empty salt barrels—more or less—with water. When frozen in a solid chunk or cake, and the barrels full, bury in an old strawstack.

Get up a Club for KANSAS FARMER.

THE HOT WINDS

WOULD NOT AFFECT YOUR GROWING CROPS IF YOU HAD A

FAIRBANKS, MORSE & CO. IRRIGATION PLANT.

ONE CROP WILL PAY FOR PLANT.

WRITE FOR PARTICULARS.

FAIRBANKS, MORSE & CO., 1310 UNION AVE., KANSAS CITY, MO.

MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City, July 30, 1894.

CATTLE—Receipts, 6,587 cattle; 375 calves. Dressed beef and shipping steers, \$3 50@4 50; cows, \$1 35@2 55; bulls, \$1 00@2 10; heifers, \$1 65@2 00; calves, \$1 75@5 00; stockers and feeders, \$1 80@3 30; Texas steers, \$2 85@2 95; Texas and Indian steers, \$2 10@3 10; Texas and Indian cows, \$1 50@2 25; Texas and Indian heifers, \$1 65@2 25; Texas and Indian calves, \$2 00@2 25.

HOGS—Receipts, 8,013. The scare about the corn crop has sent unprecedented numbers of hogs to all Western markets. Heavy hogs, \$4 60@4 80; pigs and lights, \$4 00@4 65.

SHEEP—Receipts, 242. Texas, \$2 00; lambs, \$4 10; muttons, \$3 00.

Chicago, July 30, 1894.

CATTLE—Receipts, 27,000. Beef steers, \$3 75@4 70; stockers and feeders, \$2 00@3 10; bulls, \$1 65@3 00; cows, \$1 00@3 00.

HOGS—Receipts, 60,000. Mixed, \$4 75@5 10; heavy, \$4 75@5 10; light weights, \$4 75@5 15.

SHEEP—Receipts, 9,000. Good strong, others dull. Natives, \$1 50@3 35; lambs, per cwt., \$2 50@4 30.

St. Louis, July 30, 1894.

CATTLE—Receipts, 4,300. Few natives, slow. Native steers, common to best, \$3 50@4 30.

HOGS—Receipts, 3,500. Top, \$5 20. Bulk, \$5 10.

SHEEP—Receipts, 100. Market strong. Natives, \$2 00@3 05.

GRAIN AND PRODUCE MARKETS.

Kansas City, July 30, 1894.

WHEAT—Receipts for forty-eight hours, 114,000 bushels; last year, 72,600 bushels. A firm and fairly active market was had. Low grades hard to sell.

CORN—Receipts for forty-eight hours, 43,200 bushels; last year, 55,200 bushels. Firm and in good demand. By sample on track: No. 2 mixed, 10 cars at 39c, 6 cars at 38 1/2c, 2 cars at 38 1/4c; No. 2 yellow, 2 cars at 38 1/2c; No. 3 mixed, 3 cars at 38 1/4c; No. 2 white, 3 cars at 42c, 4 cars at 45c, 4 cars Memphis at 50 1/4c; No. 3 white, 2 cars at 42c.

OATS—Receipts for forty-eight hours, 15,000 bushels; last year, 8,000 bushels. Firm in sympathy with corn and selling very well. By sample on track: No. 2 mixed, 2 cars at 27c, 1 car at 27 1/4c; No. 3 mixed, 4 cars at 28 1/4c, 1 car at 27c, 1 car at 26 3/4c; No. 4 mixed, 2 cars at 26c, 2 cars at 25 1/2c; No. 3 white, 2 cars at 29c, 1 car at 28c.

RYE—Receipts for forty-eight hours, 1,200 bushels; last year, none. Prices nominal. By sample on track, on the basis of the Mississippi river: No. 2, 40@41c; No. 3, 38@39c.

FLAXSEED—Demand good and market higher at \$1 14 per bushel upon the basis of pure.

Bran—Steady and in fair demand. Bulk, 50c; sacked, 57c per cwt.

HAY—Receipts for forty-eight hours, 260 tons. Fancy prairie, \$5 50@7 00; choice, \$5 50@6 00; low grades, \$4 50@5 25; timothy, choice, \$9 00@9 50; No. 1, \$8 50; No. 2, \$7 50@8 00; choice clover, mixed, \$5 00@5 50.

BUTTER—Choice table goods in light supply; local demand good, that is, creamery and dairy. Store-packed very drab; packers only buyers.

WATER PIPE.

Our Hard Burned Vitrified and Glazed Clay Pipe is everlasting. With our Improved Joints this pipe will stand same pressure as iron and costs about one-fourth as much.

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ket, with offerings fair. Buyers are paying growers 40@45 by the wagon load.

BERRIES—Very few blackberries on the market and inquiry light at steady prices. A few baskets of plums on sale that were hard to move.

MELONS—Demand good for watermelons and fresh receipts light; sales at \$10@15 per 100. Cantaloupes are plentiful and going cheap at 25@50c per dozen.

PEACHES—Not so many on sale and stock in request at 75@85c per box, while baskets go at 35c.

FRUIT—Apples, fancy, per one-third bushel box, 30@60c; choice, one-half bushel, 25@40c.

VEGETABLES—Jobbing prices: Beans, navy, California, per bushel, \$2 10@2 15; country, \$2 00@2 10; cabbage, per 100 pounds, \$4 00; celery, California, 75c@1 00 per bunch.

EARLY VEGETABLES—Cabbage, home-grown, per pound, 1@1 1/4c; cucumbers, per dozen, 10@20c; beans, per bushel, 80@50c; beets, per dozen bunches, 10@15c; egg plant, per dozen, 30@40c; new corn, per dozen, 10@15c; tomatoes, half bushel, 50@60c. New onions, 40@50c per bushel. Squash, 20@25c per dozen.

BROOMCORN—Hurdled, green, 3@3 1/2c per pound; green, self-working, 2 1/2@3c; red-tipped, do., 2 1/2@2 3/4c; common, do., 1 1/2@2c; crooked, half price. Dwarf, 2@3 1/2c.

GROUND LINEDSEED CAKE—We quote car lots sacked at \$20 per ton; 2,000 pounds at \$21; 1,000 at \$11; less quantities \$1 25 per 100 pounds.

WOOL—In fair demand and steady. Missouri and similar—Fine, 8@11c; fine medium, 10@12c; medium, 12@14c; combing, 15@18c; coarse, 11@13c. Kansas, Nebraska and Indian Territory—Fine, 7@10c; fine medium, 8@11c; medium, 10@13c; combing, 12@14c; coarse, 9@10c. Colorado—Fine, 7@10c; fine medium, 8@11c; medium, 10@12c; coarse and carpet, 9@10c; extremely heavy and sandy, 5@7c.

Chicago, July 30, 1894.

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

Table with 4 columns: Commodity, High, Low, Closed July 23, Closed July 30. Rows include WHEAT, CORN, OATS, PORK, LARD, S. RIBS.

WHEAT—Cash—No. 2 red, 52 1/2@53 1/4c; No. 3 red, 49c; No. 2 hard, 50 1/4c; No. 3 hard, 49c.

CORN—Cash—No. 2, 46 1/2c. OATS—Cash—No. 2, 32c; No. 2 white, 33c; No. 3, white, 31c.

St. Louis, July 30, 1894.

WHEAT—Receipts, 244,000 bushels; shipments, 1,000 bushels. No. 2 red, cash, 48c; August, 48 1/2c@49c; September, 49 1/2c.

CORN—Receipts, 150,000 bushels; shipments, 66,000 bushels. No. 2 mixed, cash, 32 1/2c; August, 43 1/2c; September, 44c; May, 42 1/2c.

OATS—Receipts, 50,000 bushels; shipments, 10,000 bushels. No. 2 cash, 23 1/2c; August, 29 1/4c; September 29 1/2c.

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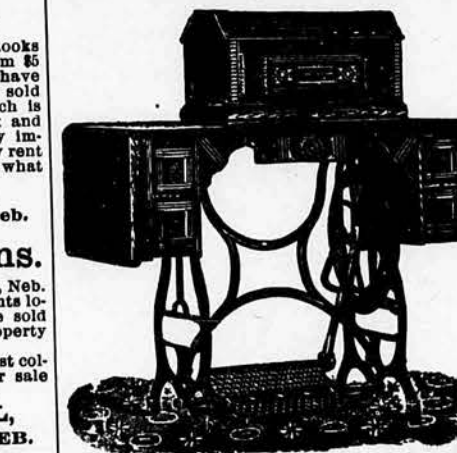
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FOR EXCHANGE—One thousand choice bargains in farms, ranches, timber and mineral lands, business and residence property, mills, hotels, opera houses, livery barns, stocks of merchandise, etc. Write me what you have for sale or trade and what you want for it. John G. Howard, Topeka, Kas.

SHROPSHIRE RAMS.—Will sell pure-bred yearling rams, sire Grand Delight 2d (pedigrees furnished), at \$15 for next thirty days. Kirkpatrick & Son, Hoge, Kansas.

POLAND-CHINA MALES—Tecomseh, Square Business strain, cheap. J. D. Ziller, Hiawatha, Kas.

AGENTS WANTED—In every county in eastern Kansas to sell Busler's Double-Action Comet Spray Pump. Territory given and goods shipped by W. H. Williams, General Agent, Toronto, Kas.

SUNNYSIDE—YAKIMA VALLEY.—Irrigated lands. Produce apples, pears, prunes, peaches, hops, alfalfa. Worth \$50 to \$600 per acre. "Twenty acres enough." For map, prices, particulars, write F. H. Hagerty, Sunnyside, Washington.

COMMERCIAL HOTEL AND RESTAURANT.—Rates per day, \$1.25; single meals, 25 cents. First-class lunch room connected. F. Long, proprietor, 528 Kansas Ave., Topeka, Kas.

FOR SALE AND EXCHANGE—Young Angus bulls. Most noted families. Will sell cheap or exchange for good driving horse or team or choice Berkshire or Poland-China pigs. Kirkpatrick & Son, Hoge, Kas.

WANTED—A farm near Topeka. Dr. H. W. Roby, Topeka, Kas.

HAY WANTED.—Choice and No. 1 timothy hay. Will buy or handle on commission. Warehouse capacity, one hundred cars. Correspondence solicited. E. R. Boynton, 1325 West Eleventh street, Kansas City, Mo.

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

CHOICE BARRED PLYMOUTH COCKERELS.—At \$1.50 apiece. Also White Holland turkeys. Young toms \$3 each, \$5 a pair. Mrs. E. P. Mason, Belle Plaine, Kas.

GALLOWAY BULLS FOR SALE—I have some fine young Galloway Bulls for sale cheap; also Scotch Collie Pups. Come and see them, or address, F. R. Huntoon, Snokomo, Wabunsee Co., Kas.

BELOW THE BLIZZARD LINE—Fruit and stock farms for sale. Enclose stamp for price list, terms, etc. Hynson & Elmore, Mammoth Springs, Ark.

SEND TO-DAY FOR FREE SAMPLE COPY OF Smith's Fruit Farmer, a practical Western horticultural journal, 50 cents a year. Smith's Fruit Farmer, Topeka, Kas.

"HOW TO RAISE PIGS"—A free book to farmers, postpaid. J. N. Reimers, Davenport, Ia.

CHEAP ROOFING.—We will sell you a two or three-ply roofing, ready to lay, that any one can apply, suitable for dwellings, barns and other buildings, for \$1.75 and \$2 per square of 100 feet, including tin caps, nails and coating. Topeka Roofing Co., 109 East Fifth St., Topeka, Kas.

CLOSING OUT—Entire stock of Hamburgs, incubators, brooders, bone-mill, clover-cutter, etc., on account of death of wife. J. P. Lucas, Topeka, Kas.

WANTED—To exchange carpenter work for a young sound work horse. Address "I," KANSAS FARMER office.

NO TRADE—A lot of drivers and well-bred horses and jacks for an improved farm well located. C. H. Highley, Hale, Mo.

HOMES IN SO. DAKOTA AND MINNESOTA FOR SALE \$5.00 to \$10.00 per acre. 10 years time, low int. FARMS TO RENT OR EXCHANGE. WE HAVE Rich soil, healthy climate, good schools, churches and markets. Information and list of farms free. S. W. NARRENGAN, Aberdeen, S. Dak.

HO! ON TO OKLAHOMA! Do you want cheap lands? Send for free circular containing full description of Oklahoma, its soil, climate, crops and other resources, with valuable statistics. Address Hagan, Paine & Russell, Guthrie, Oklahoma.

THE STRAY LIST.

FOR WEEK ENDING JULY 18, 1894. Wallace county—Hugh Graham, clerk.

COLT—Taken up by Samuel Halsey, in Morton tp., P. O. Wallace, June 23, 1894, one iron-gray horse colt, 1 year old, star in forehead, old hair long and rough; valued at \$15.

Graham county—D. C. Kay, clerk.

MARE—Taken up by J. B. Reische, six miles south of Bogue, April 27, 1894, one black mare, 8 years old, weight 1,000 pounds, star in forehead, left hind foot white, blemish on right hock, scar on left shoulder; valued at \$25.

Montgomery county—Jno. W. Glass, clerk.

MARE—Taken up by H. S. Walters, in Fawn Creek tp., one brown mare, 3 years old, white strip in forehead, branded ace of spades on left shoulder; valued at \$20.

MARE—By same, one sorrel mare, 6 years old, white strip in forehead, same brand; valued at \$10.

MARE—By same, one sorrel mare, 8 years old, star in forehead, same brand; valued at \$10.

MARE—Taken up by John Sack, in Independence tp., one dark iron-gray mare, 5 years old, collar-mark on shoulder, weight 900 pounds, no brands; valued at \$25.

MARE—By same, one bay mare, 4 years old, scar on left buttock eight inches long, no brands; valued at \$12.

Osage county—E. C. Murphy, clerk.

2 MARES—Taken up by B. F. Burkhardt, in Burlingame tp., ten miles northwest of Burlingame, May 31, 1894, two gray mares, 3 years old, branded E on left shoulder; valued at \$30.

Atchison county—Chas. H. Krebs, clerk.

HORSE—Taken up by Giles Hargus, in Kaptoma tp., P. O. Harrington, June 26, 1894, one bay horse, 7 or 8 years old, small size, white strip in face, pacer; valued at \$25.

Brown county—J. V. McNamar, clerk.

COW—Taken up by Alex Robertson, of Mission tp., one roan cow, 8 or 10 years old, white face and dehorned.

Cherokee county—P. M. Humphrey, clerk.

HORSE—Taken up by E. H. Stevens, two and a half miles north of Empire City, June 29, 1894, one sorrel horse, about 8 years old, blaze face, right front and both hind feet white, shod all around, white spot in right nostril, heavy mane, foretop clipped, sixteen hands high, weight about 1,000 pounds.

MULE—Taken up by J. C. Mowland, in Ross tp., June 13, 1894, one bay horse mule, about 3 years old, fifteen hands high.

MULE—By same, one black mare mule, 2 years old, fourteen hands high.

Logan county—H. G. Kiddoo, clerk.

HORSE—Taken up by Samuel West, in Western tp., May 5, 1894, one large-boned black gelding, 10 years old, no marks or brands; valued at \$10.

MARE—By same, one r. an mare, 9 years old, no marks or brands; valued at \$15.

FOR WEEK ENDING JULY 25, 1894. Sumner county—Chas. Sadler, clerk.

MULE—Taken up by John W. Suddarth, in Wellington tp., P. O. Wellington, July 2, 1894, one brown mare mule, fourteen hands high, tip off right ear; valued at \$15.

MULE—By same, one dun mare mule, fourteen and a half hands high, lame in both hind legs; valued at \$17.

Harvey county—T. P. Murphy, clerk.

HORSE—Taken up by G. J. Kilewer, in Pleasant tp., (P. O. Elbing, Butler county,) June 14, 1894, one brown horse, about 12 years old, had on a rawhide halter, no marks or brands; valued at \$25.

Chase county—M. K. Harman, clerk.

STEER—Taken up by J. R. Blackshire, in Cottonwood tp., P. O. Eldorado, July 9, 1894, one red steer, 3 years old, a little white on forehead, white between fore legs, small white spot on left hind leg above hock, no marks or brands; valued at \$30.

Hamilton county—John Wensinger, clerk.

TWO HORSES—Taken up by John J. Donohue, in Cooldge tp., June 27, 1894, two horses, about 2 years old; one dun, fourteen hands high; the other dark bay, fourteen and a half hands high; both branded C on left shoulder; valued at \$15 each.

FOR WEEK ENDING AUGUST 1, 1894. Allen county—Jas. Wakefield, clerk.

TWO MULES—Taken up by C. K. Mills (Postoffice Moran), one span of mouse-colored mare mules, 2 years old, no marks or brands; valued at \$30.

Labette county—J. F. Thompson, clerk.

MARE—Taken up by B. Cozad, in Mount Pleasant tp., July 3, 1894, one brown mare, fourteen and a half hands high, 7 years old, both hind and left front foot white, shod with light plates all round.

HORSE—Taken up by S. V. Green, in Canada tp., a mile and a half north of Angola, June 23, 1894, one bay horse, 10 or 12 years old, weight about 1,000 pounds, spavin on right hind leg, shod in front.

COLT—By same, one gray colt, small, 1 or 2 years old, no marks or brands; two animals valued at \$26.

MULE—Taken up by John McCaw, in Richland tp., near Chetopa, July 8, 1894, one brown mare mule, fifteen hands high, 14 years old; valued at \$15.

MULE—By same, one dark bay mare mule, fifteen hands high, 14 years old; one of said mules carries a large cow bell; valued at \$15.

HOT WINDS!

Save Your Fodder with the Improved BLUE VALLEY

Corn Harvester!

Send at once to BLUE VALLEY FOUNDRY CO., Manhattan, Kas.

SEEDS J. G. PEPPARD 1400-1402 UNION AVE. KANSAS CITY, MO.

Illustration of a globe with a lion standing on it. Text: FREE ILLUSTRATED BOOKLETS—Texas, New Mexico, California, Kansas, Oklahoma—The Santa Fe Route Publishes them for Everybody. Please write to or Talk it over with G. T. NICHOLSON, Gen. Pass. Agt. A. T. & S. F. R., Topeka, Kansas.

HORSES! SOLD AT AUCTION. On Tuesday, Wednesday, and Thursday of each week. Private sales every day. At the KANSAS CITY STOCK YARDS, HORSE & MULE DEPT. THE LARGEST & FINEST INSTITUTION OF THE KIND IN THE UNITED STATES. 85107 head handled during 1893. All stock sold direct from the farmer, free from disease, and must be as represented or no sale. Write for market report, mailed free. Address, W. S. TOUGH & SON, Mgrs., Kansas City, Mo.

THE UNION STOCK YARDS, CHICAGO.

(Consolidated in 1865.) The largest live stock market in the world. The center of the business system from which the food products and manufactures of every department of the live stock industry is distributed. Accommodating capacity: 50,000 cattle, 200,000 hogs, 30,000 sheep, 5,000 horses. The entire railway system of Middle and Western America center here, rendering the Union Stock Yards the most accessible point in the country. The capacity of the yards, the facilities for unloading, feeding and reshipping are unlimited. Packing houses located here, together with a large bank capital and some one hundred different commission firms, who have had years of experience in the business; also an army of Eastern buyers, insure this to be the best market in the whole country. This is strictly a cash market. Each shipper or owner is furnished with a separate yard or pen for the safe keeping, feeding and watering of his stock, with but one charge of yardage during the entire time his stock remains on the market. Buyers from all parts of the country are continually in this market for the purchase of stock cattle, stock hogs and sheep. Shipper should ask commission firms for direct information concerning Chicago markets. The Greatest Horse Market in America, the Dexter Park Horse Exchange. N. THAYER, President. JOHN B. SHERMAN, Vice President and Gen. Manager. GEO. T. WILLIAMS, Secretary and Treasurer. J. C. DENISON, Ass't Secretary and Ass't Treasurer. JAS. H. ASHEY, General Superintendent. D. G. GRAY, Ass't Superintendent.

The Kansas City Stock Yards

Are the most complete and commodious in the West and the second largest in the world. Higher prices are realized here than further east. This is due to the fact that stock marketed here is in better condition and has less shrinkage, having been shipped a shorter distance; and also to there being located at these yards eight packing houses, with an aggregate daily capacity of 9,000 cattle, 40,000 hogs and 4,000 sheep. There are in regular attendance sharp, competitive buyers for the packing houses of Chicago, Omaha, St. Louis, Indianapolis, Cincinnati, New York and Boston. All of the eighteen railroads running into Kansas City have direct connection with the yards.

Table with 6 columns: Cattle and calves, Hogs, Sheep, Horses and mules, Cars. Official Receipts, 1893. Slaughtered in Kansas City, Sold to feeders, Sold to shippers, Total sold in Kansas City.

C. F. MORSE, General Manager. E. E. RICHARDSON, Secretary and Treasurer. H. P. CHILD, Assistant Gen. Manager. E. RUST, Superintendent.

Illustration of a pocket watch. Text: \$2.95 WATCH GOLD PLATED AND BOX OF 50 CIGARS C.O.D. \$2.95 AN EXTRAORDINARY OFFER! NO MONEY REQUIRED IN ADVANCE! FOR 60 DAYS ONLY. FREE EXAMINATION. Box of 50 Cigars and Watch for \$2.95. 100,000 TESTIMONIALS RECEIVED. CUT THIS OUT and send it to us with your name and address, (no money required in advance) and we will send to you by express, same day as we receive your order, one box containing 50 of Our Perfecto 10c. Cigars, and in the same package a genuine Solid Gold Plated Watch, stem winder and setter, enamel dial, oil tempered, unbreakable main spring, finely finished train, jeweled balance, dust proof, finely polished case; a splendid time keeper and fully warranted for five years, a guarantee with every watch. We will also send in same package a beautiful Gold Plated Chain and Charm to go with the watch. You examine the goods at the express office and if satisfactory, pay the express agent \$2.95 and express charges, and the box of 50 cigars, and watch, chain and charm are yours. As this offer is made solely to introduce our famous 10c. cigar, and to protect ourselves against dealers and speculators ordering in large quantities, we will not sell more than three boxes and three watches to any one person. Write to-day. Address The WESTERN UNION MFG. CO., 291 Wabash Ave., Chicago, Ill.

MY WIFE CANNOT SEE HOW YOU DO IT AND PAY FREIGHT. \$14 Boys our 3 drawer walnut or oak Improved High Arm Singer sewing machine finely finished, nickel plated, adapted to light and heavy work; guaranteed for 10 Years; with Automatic Bobbin Winder, Self-Threading Cylinder Shuttle, Self-Setting Needle and a complete set of Steel Attachments; shipped any where on 80 Day's Trial. No money required in advance. 75,000 now in use, World's Fair Medal awarded machine and attachments. Buy from factory and save dealer's and agent's profits. Cut This Out and send to-day for machine or large free FREE catalogue, testimonials and glimpses of the World's Fair. OXFORD MFG. CO. 342 Wabash Ave. CHICAGO, ILL. Mention Kansas Farmer when writing us.

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