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BREEDERS' DIRECTORY.

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

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SWINE.

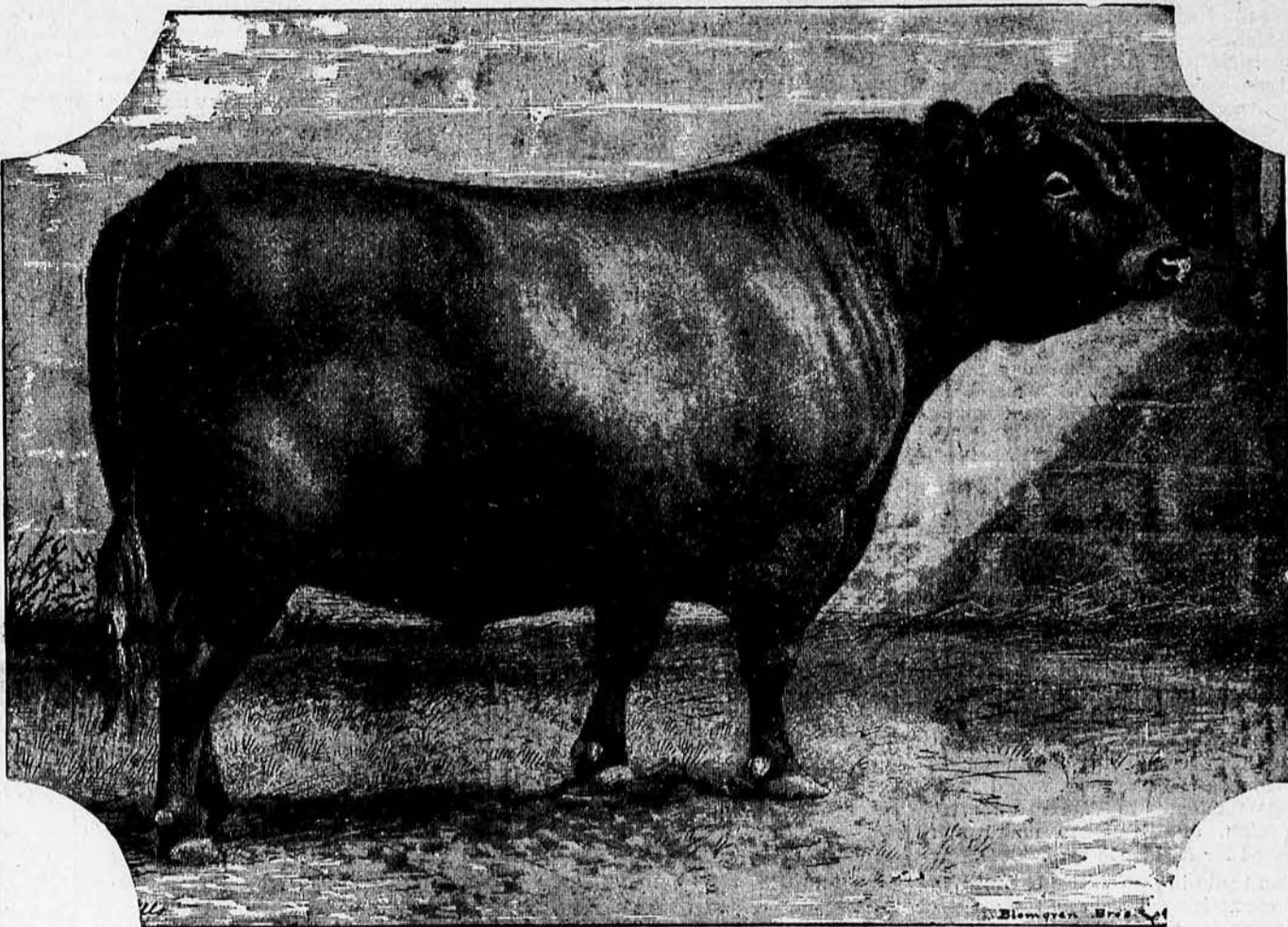
S. McCULLOUGH, Ottawa, Kansas. Breeder of Pure-bred BERKSHIRE SWINE. Stock for sale at all times. Satisfaction guaranteed. Write for what you want.

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GEORGE TOPPING, Cedar Point, Kas. (CHASE CO.) Importer, breeder and shipper of

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of best families and breeding. Choice pigs for sale at low prices. Also Single-combed Brown Leghorns and Mammoth Bronze turkeys. Eggs in season. Farm 6 miles south of Cedar Point. Mention K. F. (Breeders' Directory continued on page 16.)



RED POLLED BULL, WILD ROY 1105, OWNED BY L. K. HASELTINE, DORCHESTER, MO.

The Stock Interest.

OUR PRINCIPAL BEEF MARKET.

[From the Report of the Secretary of Agriculture.]

During the nine months ending September 30, 1894, the farmers and stock-raisers of the United States have sold, and there have been exported, to the United Kingdom of Great Britain 305,910 live beef cattle, valued at \$26,500,000. During the same period of the year 1893 only 182,611 live beef cattle from the United States were taken by the British markets, at a valuation of \$16,634,000. The small consumption of American beef in England last year was due to restrictions imposed by law, and also to the low prices of domestic beef in England, because of the scarcity there of feeding stuffs, which enforced slaughtering. The increase of the present year does not quite restore the average of the cattle trade between the United States and England. Canada is practically the only competitor with the United States for the English live cattle trade. The regulations governing the importation to England of live stock are the same as to animals from the United States and Canada—no discrimination being made for or against either class. All of the animals are, under the provisions of the English law, slaughtered immediately upon arrival at British ports.

Large proportions of the meat thus taken into England are sold in the retail markets of London, Liverpool and other cities, as "prime Scotch" or "English beef." Under that classification the butcher demands and secures a better price than he could with the meat known and sold as Canadian or American.

In England it is not believed that legislation can prevent the sale of American and other imported fresh beef as Scotch and English beef. The beef from the United States is of such excellent quality and so very similar to the best English beef that even experts are unable to distinguish between the two. Any law which might be enacted would fall to repress the sale of American meat in English markets. The statute, however, might curtail the profits of butchers. The lower price which they could only obtain for imported meat, sold as such, would have a direct tendency to increase its consumption, and thus to make more demand for American beef.

The trade in live cattle between the two countries has been of the greatest advantage to the British people. During the six months of the year, from March to September, when their cattle are fattening on the pastures, American steers are arriving in large quantities and of superior condition and flavor. Long ago it would have been generally admitted in England that American beef is superior, from March to September every year, to English beef produced during those six months, except for a certain national prejudice which is common to all countries.

The live beef trade is conducted at different ports with slight differences. At Deptford sales are private on the hoof. At Liverpool half of the animals are sold privately. The other half are slaughtered on account of shippers and sold to buyers by the carcass. The Liverpool surplus makes its way to London, and a large part of it, beyond question, is so "cut up" as to simulate "prime Scotch joints." At Glasgow and Bristol nearly all animals are sold at auction on the hoof. The charges do not differ very materially at the various ports. The following may be taken as the average costs at each place of debarkation: Dock dues, use of slaughter-house, etc., \$1.20 per head; subsistence per day, 24 cents; commission of salesman on each animal, 96 cents; driving (feeding, attending, etc.), 24 cents. The shipper who gets out with British terminal charges of \$3.75 per head upon his cattle considers himself fortunate. Add to the above charges, freight \$11, and \$1.50 for the feed and attendance of each animal on the voyage, and \$1.60 for insurance, and we have a total expense for each animal shipped of \$17.85. This represents very nearly accurately the expense of getting a beef animal from

the American port into the hands of the British buyer.

October 25, 1894, good American steers were bringing in the British market \$85 each. The best weight of cattle for shipment is 1,350 to 1,400 pounds, making a dead weight of about 750 pounds. In England the offal (especially in London and Liverpool, where large numbers of poor people purchase it) is considered of great importance. Heads, tails, livers, kidneys, lights and hoofs go to one buyer, and the hides and inside fat to another. Parliament disinclines toward the encouragement of a trade in dressed meat, because that would shut out the offal. But if the American cattle are killed at home, properly dressed, and sent to Europe in a state of refrigeration, the cost of American beef will be reduced in all those markets. By killing at home and shipping only the dressed carcasses, bulk is compacted, value is enhanced and the cost of transportation is reduced, so that the poor, who heretofore have bought offal, may be able to buy good meat instead.

During the first six months of the year 1894 there were exported into the United Kingdom of Great Britain 112,000,000 pounds of dressed beef, valued at nearly \$10,000,000. This trade in dressed beef is almost entirely in the hands of American citizens. Their principal competitors are found in Australasia. The question whether more profit remains with the producer from shipping live beef cattle or carcasses to European markets is one

Another of this valuable herd is Queen of Shannon 7th, sired by that noted imported bull, the 8th Duke of Kirklevington, for which John Wentworth paid \$1,660 when a calf six months old, at public sale. There is no question but what this herd of Short-horns will be heard from in the near future.

Their herd of Poland-Chinas is headed by a large, well-developed, typical Poland-China boar by name of Raymond, sired by Tecumseh Lad 28069, out of Young Prospect—Among the breeding sows the following deserve special mention, they being above average. Minnie, sired by Seldom Found 28037 O., 7815 S., out of Little Beauty 38292 O., 7830 S. Queen Bess and Champion Girl, both sired by Dandy Boy 28989, and out of Cora S—This herd was procured from the Champion and Quality herds, both of which were so successful at the World's Fair. The sow Minnie, spoken of above, is a half sister to the six-month-old blue ribbon boar of the World's Fair.

I predict unbounded success for these gentlemen, they both being young, active, industrious and wide-awake—full of push, perseverance and patriotism. Any one calling upon either of them will be well and cordially received. Mr. Irwin resides in the city and attends to all correspondence and business relation, while Mr. Duncan resides on the farm and attends to the breeding, care and raising of the Short-horns and Poland-Chinas. HORACE.

STANDARD POLAND-CHINA HERD.

Among the young men in western Missouri that are rapidly coming up in the front ranks of modern swine husbandry is Mr. Chas. A. Cannon, of Harrisonville, Cass county. He is one of fifteen children, twelve boys and three girls, nine of which are living, and among them is Charles, who has never completely severed the home ties nor the agricultural business relations with his father, Mr. Samuel Cannon, on the

of the kind that gets broad-backed, mellow, early-maturing sons and daughters. He cost Mr. Cannon, laid down on the farm, \$70, and we think well bought. The litter of which he was one brought, at the late Lail sale, \$270.

In an adjoining paddock the visitor finds another recruit that was sired by Tecumseh Jr. 10207 O., he by Tecumseh 4339 O.; dam Favor 73684 O., by Surprise 2941 O., out of Nellie Bly 3d 48000 O., running directly to Success 6123 O. and Give or Take 1585 O. He was bred by the noted Ohio breeder, C. W. Goslee, of Hardin county. These two youngsters are both very promising individuals, with the scale of points a little in favor of the Ohio lad, as well as in weight, the former weighing, after light service of six weeks, 225 pounds, and the latter about 275. Taking into consideration the results of the influence of Excelsior and Chow Chow already in the herd, and the expectancy that is to come from the blood of these two highly-bred youngsters, something more than ordinary may be anticipated in next year's pig crop.

In the aged brooder division are thirty-six belonging collectively to the Blaines, Victors, Corwin, Give or Take, Black U. S. and other noted families. Perhaps the most attractive harem lady is Mary L. Victor (15670), by Victor 2994 S.; dam Tecumseh Girl 2d (6251). Such is her high character and almost perfect conformation, with her strong maternal characteristics, being not only able to farrow large, smooth, even litters, but to suckle and raise them as well, eight of her daughters, three two-year-olds, three yearlings and two of April, 1894, gilts have been retained in the herd. One of their great granddams was Black Nery (6690), that was one of the most noted harem queens that ever produced prize-winning sons and daughters in all the West. Close up in their company is an extra fine individual, a remarkable breeder that was sired by Black U. S. 1524 S., and out of Big Lily (6255). Four of her daughters, two three-year-olds and two of the succeeding year, now have about thirty youngsters in the herd by Chow Chow, that are sure to be letted out for inspection. The three oldest Black U. S. females were sired by Stemwinder Lail 7055 S., he by Stemwinder 1214 S.; dam Amy Van Dorin 16692. The noted Stemwinder, the reader will call to mind, was bred by one of Ohio's most noted breeders, Duffield.

Too many of the aged brooders in the array for one short notice, hence we pass on to the youngsters for a brief notice. Among twenty of the tippy gilts now on the farm is one sired by Lail's Victor 4298 S.; dam Lucy L. (6351). She came to the Standard Poland-China herd from the late Lail sale at a cost of about \$46. Such is her promise that she is almost sure to be letted out for final let show-yard inspection. She was bred to Elected Duke, the boar that won first at the Ohio State fair this fall. Another one that came in her company was sired by Hidestretcher (Vol. 16). Her granddam topped the celebrated sale made in 1893 by Duffield and Lamb, of Ohio. The array of lassies are too numerous for us at this writing, but more will be said of them later on.

Among the twenty young lads suitable to go out are some Black U. S. boars, four of which are out of the excellent dam Susan Jane. This string of youngsters were farrowed along from May to July. In another division are thirty gilts, among which are several good enough to go out anywhere. Mr. Cannon keeps right on improving, not only his herd, but their quarters, as well. He has in course of construction a hog house 100x30 feet that will be heated and the grinding and cooking done by steam. If no serious mishap overtake his present ambition, more will be known of the results achieved in the Standard Poland-China herd of Cannon's, at Harrisonville. W. P. BRUSH.

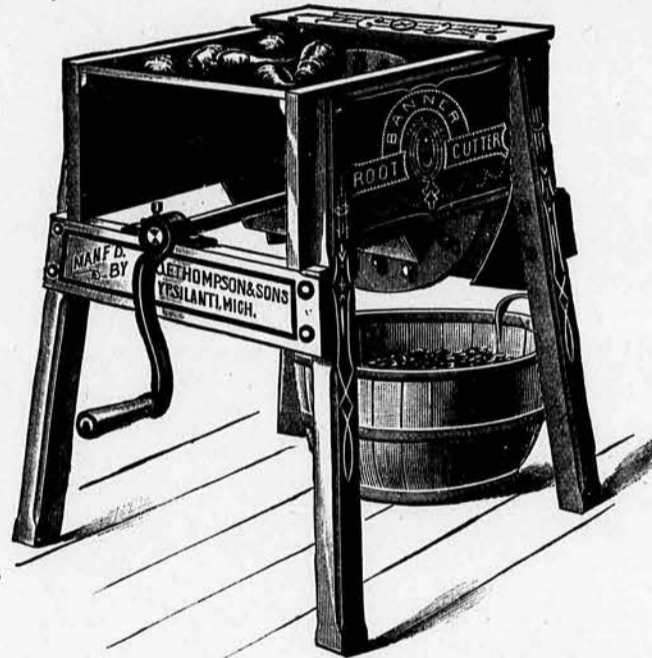
Stock Choking to Death.

Many farmers who feed roots and vegetables have lost valuable stock by their choking to death.

This evil can be remedied by using the Banner Root-Cutter, illustrated on this page. No machine has ever been on the market that would cut fodder in safe shape for stock feeding. This cutter leaves it in long, thin, half-round slices, the most desirable condition for feeding and does away with all danger of choking. The smallest turnip or carrot and the largest mangel wurtzel are alike easily cut and left in such shape that all stock, including sheep and young lambs, are successfully fed on it.

It is a strong, substantial device built on correct principles, and the manufacturers claim it to be the most rapid and easiest running cutter ever made. A speed of a bushel a minute has been attained with this machine. They make, besides the hand machine, a power cutter for large stock-raisers and dairy farmers, with a capacity of 200 bushels an hour. Those interested should send for their catalogue, sent free. Address O. E. Thompson & Sons, Ypsilanti, Mich.

Get up a Club for KANSAS FARMER.



which requires thorough investigation. At the present writing it is deemed probable that more advantage and profit will result to the American farmer from the shipment of dressed beef than from the exportation of live cattle.

Among the Breeders.

ELM BEACH STOCK FARM.

In the "Breeders' Directory" of this paper our readers will find the card announcement of the Elm Beach stock farm, situated four miles north of Wichita, Kas. This new addition to the fine stock farms of Kansas and the great West is owned by C. M. Irwin, Secretary of the State Fair Association, while the blooded cattle and swine are owned in co-partnership with Mr. S. C. Duncan, under the firm name of Irwin & Duncan, Mr. Duncan being an experienced stock breeder.

A FARMER representative visited this farm recently and found an exceptionally good herd of Short-horn cattle, also of Poland-China swine. The Short-horn herd is headed by Duke of Elm Beach, an extra fine, well-bred bull, of blood-red color, good form and individual merit. He was sired by Kirklevington Prince 103935, and out of Waterloo Lady 2d; she by the imported Duke of Kirklevington. In the herd are such cows as the 4th Lady Bates of Shannon Hill, whose sire was Waterloo Duke of Shannon Hill 89879, who cost \$1,000, and whose dam was the 3d Miss Bates of Durham Park, tracing to the imported cow Filbert. No better bred animal exists in America than the 4th Lady Bates. Then comes Queen of Shannon 9th, who is a granddaughter to that noted show cow, Queen of the East, for which ex-Governor Glick paid \$900. The dam of Queen of Shannon 9th was Queen of Shannon 5th, an extra fine show cow and one that was never beaten in the show ring.

homestead farm of 240 acres that lies in Peculiar township, one and a half miles north of Harrisonville. The home has always been noted for its open hospitality, after the "good old Kentucky ways" of its founder, Mr. Cannon, Sr., who is a native of the Blue Grass State, and now in his seventy-eighth year hale and hearty, co-operating with his several sons in their farming and live stock operations.

Thirteen years ago pure-bred Poland-China swine were introduced on the farm, and in 1889 a strong re-enforcement of extra good individuals belonging to the Victor family were added, and later such fashionable blood from time to time as was deemed profitable, until now the herd consists of about 220 head, exclusive of the fall of 1894 farrowings. The leading harem kings used last year were Excelsior 7764 S., bred by E. M. Coffman, of Illinois, sired by the noted Governor Rush 5630 S.; dam Autumn Bell (12627). His get are easily distinguished, being of a uniform type, long, broad-backed, of the mellow kind. His most able coadjutor is the two-year-old Chow Chow, bred by Robt. I. Young, of Missouri, sired by Microbe Killer 8639 S., by Wanamaker 2d 8641 S.; dam Belle Dandy (23150), she by Dot's Dandy 7443 S. and out of Belle of Choice. Dot's Dandy sold for an even \$500. A brother of Chow Chow sold at Mr. Young's fall of 1893 sale for \$115, and went to do service at the head of Todd Chenoworth's herd at Lathrop, Mo. Among the latest animals from abroad is the young Black U. S. lad bred by F. M. Lail, of Missouri, farrowed March 4, 1894, sired by Imitation 27185 O., he by Black U. S. 13471 O., he by Success 1990 O., and he by Tom Corwin 2087 O.; dam Heyl's Choice (26956), she by King of Mason 11627 and out of Lady Corwin (26969). The reader will find, on tracing back his extended pedigree more fully, that he is one of the best bred youngsters in the West. In conformation he is a wide, long, broad, deep, mellow fellow, and

Agricultural Matters.

ERRORS AS TO COST OF PRODUCTION.

EDITOR KANSAS FARMER:—In reading the statement, in the FARMER of the 25th instant, made by Mr. Joseph Allen, of Butler county, Ohio, as to the relative cost of growing wheat and corn, I am again struck with the obvious carelessness—if not something worse—of so many of those who favor the public with similar statements. Too many of these estimates are made by men who start out to prove a certain thing, and in case the figures correctly stated will not do so, why then they are made to fit, just, as in the case of the "Lord High Executioner," the punishment was made to fit the crime.

Upon an analysis of the estimates this appears to be the case in this instance, as for the use of identically the same twenty-six acres we find a rent charge of \$7 an acre when planted with corn, and but \$6 an acre when devoted to wheat. By such a process, and eliminating such charges as the cost of hauling wheat to market—corn appears to be fed on the place—insurance and taxes, we are told that wheat is grown in Ohio for 46 cents a bushel, and sold at 50 cents affords a margin of profit, and an argument is based thereon that wheat-growing may and probably is profitable in the Western wheat-growing States.

The utter worthlessness of such arguments is shown when we remember that this writer claims to have grown exactly thirty bushels an acre, and that the average yield of Ohio fields for the ten years ending with 1890, as shown in the reports of the Department of Agriculture, was but 13.6 bushels. As it costs as much to grow wheat on average Ohio lands as on the rich lands upon which the writer grew his thirty bushels—less the cost of the twine to bind, and the labor of hauling to machine and threshing the extra 16.4 bushels, and the difference in the rental value of average lands and those used to grow the thirty-bushel crop, which would be about \$4 an acre—it is seen that the average cost of growing wheat—assuming that, for this calculation, Mr. Allen's figures correctly represent the cost—in Ohio cannot be less than 73.5 cents per bushel, and if sold at 50 cents the grower would net a loss, less the value of the straw, of 23.5 cents a bushel.

But this is not all the loss, nor does this show how fallacious is this wonderful estimate, which appears to have been made to fit one contention of the writer, as had he charged the same rent for the land when in wheat as when in corn, even his thirty bushels an acre would have cost 50½ cents a bushel, and at 50 cents at the mill or station would have netted the grower a loss of one-third of 1 cent a bushel, plus the cost of marketing the wheat and such taxes and insurance as were properly and proportionately chargeable to the land employed in growing the grain. There may have been no insurance, but we may assume that, even in Ohio, the farmer pays taxes and that it costs something to reach the mill or station with a load of wheat.

An extraordinarily remarkable thing about this estimate, aside from the diverse rental value of the land when under different crops—I have always believed that wheat exhausted land more than corn, hence if any difference be made more should be charged for the use of land when in wheat—is that the cost of producing twenty-six acres of wheat differs but 15 cents from the cost of producing twenty-six acres of corn; the cost being put at \$364.25 and \$364.10, respectively.

Having had much experience in handling accounts, I was led, by this singular correspondence in the cost of the two crops, to analyze the statements in order to ascertain what elements of cost were included in each instance, hence the discovery of the omissions named. Whether accidental or intentional they destroy the entire value of the statements and add to an existing distrust of elaborate marshal-

ling of numerals, numerals that when properly handled are so efficient in conveying desirable knowledge, but which handled carelessly are so mischievous and misleading.

If the writer's conclusions in relation to wheat-feeding are no more correct than his figures, they are evidently of little value in determining the relative feeding value of wheat and corn, and I am sorry to say that this applies to many of the statements incorporated in the volume on wheat-feeding by the Secretary of the State Board of Agriculture, as therein I find positive statements of the value of wheat as animal food from men whom I know, and know that they never fed ten bushels of wheat in their entire lives.

C. WOOD DAVIS.

Peotone, Kas., November 30.

Experience With Alfalfa.

By C. D. Perry, of Englewood, Clark county, in Alfalfa Bulletin of the State Board of Agriculture.

In 1887, I sowed 200 acres of alfalfa, and now have 270 acres. This is nearly all on "second bottom" land, with black sandy loam, black sand, and "gumbo." The land is largely "made" land with about six to twelve feet of good soil, with "gumbo" only on top for twelve or fourteen inches. On the heavy land the dry soil begins at the top, and, at the breaking of the sod, extended down eight or nine feet. Water is found at a depth of twelve to twenty-one feet. We irrigate most of our crop from the Cimarron river. The first time the land is watered it takes from two to five times as much water as is required later, and now we find the best results are obtained by watering about ten days before cutting, using water three or four inches deep. There is no damage by frost, except on low, wet land. Without irrigation, I should double plow the ground before seeding, having one plow follow the other in the same furrow, and going as deep as possible. Seed by drilling one-half to one inch deep, ten pounds to the acre for seed, twenty pounds for hay, and thirty pounds for pasture, usually about March 15 here. We mow the weeds the first year before they seed, leaving them on the ground. After this there will be a yield of three-fourths to two tons of hay, or one to six bushels of seed to the acre, depending on the season. In two or three years the plant is at its best, and does not seem to need re-seeding after that. We have from three to five crops a year, depending on promptness in watering and cutting. Any cutting after the first one is better than that for seed, and, before cutting, two-thirds of the seed pods should be black. We mow, then rake and cock at once, stacking as soon as well cured. Hay should be cut when it is coming into bloom. To make good hay, let it lie for half a day (if dry weather), then rake and cock and let cure thoroughly. We stack in long ricks and it keeps well. The alfalfa land is valued at \$50 an acre, and the four irrigations cost 25 cents each; the estimate cost of the alfalfa in the stack is \$2.15 a ton. An average yield of seed is three bushels to the acre, and the cost of threshing and cleaning it is 80 cents a bushel. Hay has sold for \$5 a ton, and seed for 6, 8 and 10 cents a pound. The threshed hay is not so good as that cut earlier, but cattle eat it all clean. The pasture is excellent for horses, hogs and cattle. If the alfalfa is wet, it is liable to cause bloating with sheep; for cattle, there is not much danger, except for the first few days they are turned on. If the animal is seen in time, it may be relieved by driving around, but if too bad to be helped in that way it needs the trocar. I have had fifty hogs on six acres of pasture this summer, and have fifty pigs, 3 to 12 weeks old; used two bushels of ground wheat and barley each day, and think I could have had as many more hogs on the pasture. The sod is very hard to plow, but it can be killed. On a piece of hog pasture plowed under, I raised seventy bushels of barley to the acre. My alfalfa seems to do the best on black sandy land and on "gumbo," with sand or open subsoil below.

See Chicago Sewing Machine Co.'s advertisement in next week's issue.

Kaffir Corn and Brown Dourra.

EDITOR KANSAS FARMER:—In your issue of November 21, I notice inquiry of "A. P. C.," relative to Kaffir corn, etc. I would say, if he wishes fodder as well as grain, by all means plant Kaffir, but if grain alone is the object I would recommend brown dourra. The 20th of last May I drilled an acre each of Kaffir and brown dourra. The Kaffir made fodder but no grain, as it was planted at least six weeks later than it should have been in this latitude. The dourra made twelve bushels of cleaned grain and was ripe by September 10. Here, let me say, with due respect for Prof. Georgeson's experience, that four quarts per acre is altogether too much seed. I used two quarts per acre last year, and found even that too much, unless one is planting for fodder. Next year I shall use only one quart of well-cleaned seed. For fodder Kaffir excels anything known. Unlike corn, its leaves do not crumble or break, no matter how dry it is when handled. Horses and cattle are very fond of it. For grain it should be planted early, as it is long in maturing.

Brown dourra is of little value for fodder, but as a "sure thing" in a drought I do not think it is equaled. I almost believe, from the experience of this past season, that if the ground is wet when it is planted, dourra will make a crop without rain. If subsoil is wet, plant with lister, but otherwise I should advise the use of horse-planter or drill. To illustrate: One of my neighbors listed some cane seed last spring after a light rain. The lister placed the seed down on the dry subsoil, and, as a result, it failed to grow. Another piece, top-planted at same time, made a season's growth of five and six feet. J. W. GIDDINGS.

Crow, Phillips, Co., Kas.

A new forage plant, sacaline (*Polygonum sachalinense*), is spoken of at the Oklahoma Experiment Station. It is said to produce from ninety to 180 tons of green forage on one acre in one year. This story would be big enough if the "0" were omitted from each number. Farmers are advised to go slow with this forage, but keep their eyes open for it. It is a perennial and is said to grow in sand, on rocks, on hillsides, in valleys, during the entire summer. If any farmer wants it to do more than is here stated it will probably be only necessary to mention it.

Publications of United States Department of Agriculture for November.

Report of the Secretary of Agriculture for 1894.—Preliminary. Pp. 75, fig. 1.—The Secretary discusses foreign markets for American farm products, and farm products and the money they bring; reviews the work of the several bureaus and divisions of the Department, giving a table of appropriations and expenditures from 1878 to 1893, inclusive.

A Compilation of the Drug Laws of the several States and Territories. Pp. 152. (Bulletin No. 43, Division of Chemistry.)

Experiment Station Record, Vol. VI, No. 2. Pp. i-vi, 89-174.—Contents: Forage plants of secondary or undetermined importance for the Southern States, and the composition of forage plants grown in the South; recent work of agricultural science; notes.

Insect Life, Vol. VII, No. 2. Pp. iii, 55-215, fig. 18. Contents: Proceedings of the Sixth Annual Meeting of the Association of Economic Entomologists, held at Brooklyn, N. Y., August 14 and 15, 1894, including the address of President Howard and papers by other members on entomological and kindred subjects.

Synopsis of Report of Statistician. New Series, No. 121. November, 1894. Pp. 4.—A synopsis of the crop report for the month of November, presenting the preliminary estimate of yield per acre of corn, potatoes, hay, buckwheat, tobacco, sorghum, fruit, sugar cane and cotton.

Report of the Statistician.—November, 1894. Pp. 661-702. (Report No. 121, Division of Statistics.—Contains crop report for November; notes from reports of State agents; table showing estimated yield per acre of certain crops November 1, 1894; notes on foreign agriculture; transportation rates.

Barnyard Manure. Pp. 32, figs. 7. (Farmers' Bulletin No. 21, Office of Experiment Stations.)—Contents: Manure as a farm resource; amount, value and composition of manure produced by different animals; comparative value of solid and liquid parts; influence of age and kind of animal; influ-

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ence of quality and kind of food; influence of the nature and proportion of litter; management of manure; use of manure; combining barnyard manure with other fertilizing materials; lasting or cumulating effect of barnyard manure; summary.

Washed Soils: How to Prevent and Reclaim Them. Pp. 22, figs. 6. (Farmers' Bulletin No. 20.)

Addresses on Road Improvement. Pp. 15. (Circular No. 14, Office of Road Inquiry.)—This circular contains four addresses by Gen. Roy Stone on improved road construction, and their publication in this form is designed to answer a large part of the correspondence of the Office of Road Inquiry.

Charts of the Weather Bureau. (Size 19 by 24 inches.)—Weather-Crop Bulletin (series of 1894) reporting temperature and rainfall with special reference to their effect on crops. (No. 30, for the month ending October 30. Semi-daily Weather Map, showing weather conditions throughout the United States and giving forecasts of probable changes.

REPRINTS.

Handbook of Experiment Station Work. Pp. 411. (Bulletin No. 15, Office of Experiment Stations.)—A popular digest of the publications of the agricultural experiment stations in the United States.

Wheat as a Food for Growing and Fattening Animals. Pp. 4. (Circular of Information No. 2, Bureau of Animal Industry.)—The purpose of the circular is to give a direct and definite answer to the questions which have been most frequently asked concerning the use of wheat as a food for stock.

State Laws Relating to the Management of Roads, Enacted in 1888-'93. Pp. 95. (Bulletin No. 1, Office of Road Inquiry.)

Improvement of the Road System of Georgia. Pp. 31, figs. 5. (Bulletin No. 3, Office of Road Inquiry.)

State Aid to Road-building in New Jersey. Pp. 20, frontispiece. (Bulletin No. 9, Office of Road Inquiry.)

Papers on Horticultural and Kindred Subjects. Pp. 124. (Gardens and Grounds.) [Write to the Secretary, at Washington, D. C., for such of the above as you desire.—EDITOR KANSAS FARMER.]

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The FARMER has made arrangements by which we are enabled to make a number of good Premium Offers for new subscribers. Those interested in raising a CLUB should send us postal card for Premium Supplement.

Irrigation.

PUMPING WATER FOR IRRIGATION.

By Irvin Van Wie, of Syracuse, N. Y.

There are three distinct types of pumps—the plunger or piston pump, which includes the windmill, steam pumps and many devices of power pumps; the rotary and the centrifugal. The plunger pumps, of necessity, move the water slowly, as the water only travels at the speed of the piston. The plunger pump also is designed especially for handling clear water; grit, sand and foreign material cut the pistons and barrel of the pump; yet while these pumps will move water slowly, they will move it a long distance or against heavy pressure when properly designed.

The pump of next greatest capacity is the rotary pump. Of these there are many different designs. They handle water much faster than plunger pumps, but as it is essential that the working parts of these pumps should fit closely, there is necessarily great friction and correspondingly loss of efficiency, and of necessity these pumps are short lived, and especially when pumping water that is muddy or gritty.

The pumps of greatest capacity for low lifts are the centrifugal pumps. These pumps are built with no close-fitting parts—no valves—consequently no friction of the parts of the machinery, and are not affected by sand, mud or gritty water. Hence, for irrigation, where the lift does not exceed fifty feet, centrifugal pumps are recognized by all hydraulic engineers as the most efficient, durable, cheapest and best, and modern manufacturers have so improved the design and workmanship of these pumps as to be able to obtain in practical working an efficiency of 60 to 70 per cent., which efficiency is equal, if not superior, to that of the best designed water-works pumps. In fact, we know of many instances where reputable manufacturers of centrifugal pumps have attained greater efficiency with moderate lifts with centrifugal pumps than they were able to obtain with first-class water-works pumps. A strong recommendation, also, for these pumps, is the fact of the extraordinary cheapness of first cost.

Again, when these pumps are adopted for various locations, as in pumping from a creek, river or lake, a submerged pump can be used, which requires no priming. But in many instances, in fact, in the majority of instances in the State of Kansas, to obtain sufficient water for irrigation it is necessary to tap the underflow. This has been done in a large number of instances very successfully. In some instances large open wells have been excavated and the water drawn from these wells; but we think the cheaper and more satisfactory method of obtaining water is by use of several drive well points, connecting the same together, and so arranging the wells as to set the pump equi-distant from all the points. In cases where there is plenty of gravel and coarse sand the ordinary well points can be used; that is, a point six or eight inches in diameter, with from six to ten feet of perforation. But in cases where the water is found in quicksand or fine sand we have used a much cheaper, and we think, much better arrangement for obtaining water. We first sink (after digging to the water) a casing, say, twenty inches in diameter; pump out the sand from the inside, sink this to a depth of, say, fifteen feet below the water; then for a well point we use common galvanized iron, No. 20, say, six, eight or ten inches in diameter; perforating the bottom, say, for ten feet with one-eighth inch holes. This point is set in the center of the casing; submerge the perforations about five feet; then we fill the space between casing and pipe with fine gravel, withdrawing the casing as we fill. These wells will yield from 500 to 1,000 gallons of water per minute each, and can be put down for less than \$40 each, including cost of point. We then connect together enough of these points or wells to supply our pump.

The question has often been asked, "What does it cost to pump water?"

We answer, from the best data which we are able to obtain, that the ordinary steam pump consumes twenty-five pounds of coal per horse-power per hour. For larger steam pumps, such as are ordinarily used in water-works, thirteen pounds of coal per horse-power per hour. Inspirators and injectors, 100 pounds coal per horse-power per hour. Pulsometers and steam vacuum pumps, about sixty-seven pounds coal per horse-power per hour. Centrifugal pumps, driven by steam engines, from two and one-half to eight pounds of coal per horse-power per hour, according to type of engine. If gasoline engines are used, such as the Weber gasoline engine, manufactured in Kansas City, water is raised at a cost of 1 cent per horse-power per hour.

Now, that our readers may be able to approximate the cost or expense of running the centrifugal pumping plant, we give the following table; the quantity of water required to irrigate an acre of land varies considerably, owing to whether there is any rainfall, the character of the soil, etc.; but a liberal estimate, made from the best information we can obtain from practical irrigators, seems to lead us to this proposition: that is, almost any climate and for ordinary crops will require during the season sufficient water to cover the land twelve inches deep; this divided into from four to six irrigations. And it is upon this basis that the following table is made:

A No. 1½ pump will irrigate ten acres of land, running the same forty days of ten hours each; and if lifting the water twenty feet will require a two horse-power engine.

No. 2 pump will supply twenty acres, requiring three horse-power.

No. 3 pump, forty acres, with six horse-power engine.

No. 4 pump, eighty acres, with ten horse-power engine.

No. 6 pump, 160 acres, with twenty horse-power engine.

No. 8 pump, 320 acres, with forty horse-power engine.

Now, the above, in each instance, proposes to raise the water twenty feet. If the lift is greater or less, power will be proportionately greater or less; and if not so much water is required as twelve inches, then of course more area can be irrigated, or the pump can be run a less number of hours.

The above table is based upon actual experience and practice with the Van Wie centrifugal pump, manufactured by the writer at Syracuse, N. Y. These pumps have been exhibited and are in active operation in a number of counties in the State. One of the best exhibitions which has been made was at the Hutchinson Irrigation convention in November. There an ordinary ten-horse threshing engine drove a No. 8 pump, raising water enough (4,500 gallons per minute) to irrigate 320 acres of land easily in any county of the State, and probably twice that amount in the central portion of the State, lifting the water about seven feet.

Thus it will be seen that it is not only feasible, but practicable, to pump water for irrigation; and that this can also be done at a less cost than the average New York or New England farmer expends annually per acre for phosphates.

It will also be seen by figuring from this table that it is not practicable to irrigate from wells upon the uplands; that is, where the water lies 100 feet or more from the surface. The cost and uncertainty of obtaining the water in sufficient quantity, together with the cost of raising the water, will, for many years, render it impracticable to irrigate the uplands. But where it is desired to raise a small quantity of water, that is, sufficient to take care of an orchard and small garden tract, say, five acres, this can be done with a vertical steam pump, or deep well pump, as it is termed, at a fair cost. But to raise a large quantity of water, sufficient to irrigate any large amount of land, would require an outlay per acre greater than the value of the land; and then the expense of pumping would be so much greater.

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to-day in the State of Kansas not less than 4,000,000 acres of land which lie within thirty feet of water; or rather, can be irrigated by pumping the water not to exceed thirty feet. All of this land can be irrigated at a cost of operating the pumping plant of not to exceed \$1.50 per acre per year. This land, if irrigated, will support a population at least five times as great as the present population of the State of Kansas. So, our advice to the ranchman whose land is upon the hills or uplands, is to secure some of the cheap bottom lands now, procure an irrigating plant and secure independence, retaining the uplands for pasture.

The Water Supply of Western Kansas.

Prepared by E. B. Cowdell, of Topeka, for the Hutchinson Irrigation Convention.

Ask the settler, in almost any portion of the western half of Kansas, as to his water supply, and he will reply that it is inexhaustible, and will cite the fact that his windmill has run day and night for a long period, and has pumped abundance of water for his cattle without making any impression on the supply. Ask the engineer, as to the quantity of water available for irrigation in western Kansas, and he will certainly assure you that it is not inexhaustible. That the engineer is right is no more true than that the settler's observations are accurate. The exhaustibility of the supply depends upon the means used.

In very much of the western half of the State the ordinary one and one-fourth inch driven pump may, if it properly reach the water-bearing grit, be worked on each ten acres, to the full capacity of the pipe to carry water, without perceptible effect upon the supply. There are also considerable areas wherein very much more effective means may be used and supplied to their full capacity. It has been held by good authority that, in the regions of greatest supply, powerful pumping engines may be used without danger of running short of water. It is, however, generally accepted by those who have made comprehensive studies of the subject, and it is undoubtedly true, that even in the Arkansas valley the supply can be withdrawn by means of gravity systems and large canals.

The fact that there are, in the portion of the State most needing irrigation, areas for which no water can be obtained; that for others nearly enough for domestic purposes and for stock is available; that, for yet others, water can be obtained in sufficient quantity to irrigate a small portion of the land; that for still other areas there is to be had water for the irrigation of a very large proportion of the land, and that for still others there is available an abundance for the irrigation of the entire tillable area, gives to the direction of the development, conservation and use of the water supply of the western half of Kansas an importance not likely to be over-estimated.

The source of the western Kansas water supply has been a subject of some controversy. Its practical importance is only on account of its bearing on estimates of quantity. Amateurs in the study of the subject are apt to assume that it comes from the mountains in the underflow. The writer finds that, disregarding the portion of the supply which comes from the mountains, the supply is so great as

to warrant exceedingly optimistic views as to the possibilities, nay, the certain future, of western Kansas.

The western half of the State may be conveniently divided into three zones, reference being had to the rainfall. In the westernmost of these, extending perhaps as far east as Garden City, the mean annual precipitation is about fifteen inches. In the second zone, taking in the region of Dodge City, the mean annual precipitation is about twenty inches. In the third zone, with Great Bend about central, the mean annual precipitation is about twenty-four inches.

The soil of these zones is porous and takes in rapidly the water which falls upon it and passes it to the subsurface strata, so that it is soon protected from excessive evaporation. The native vegetation is scant, so that the amount of moisture transpired is small. Definite information is lacking as to what proportion of the precipitated moisture passes into the underflow, but it is difficult to conjecture that it is less than the average run-off from regions where like precipitation occurs. Indeed, it is almost certain that the reservoirs beneath the western Kansas plains receive considerably more water than the amount usually delivered to the streams of countries having fifteen inches annual precipitation. If it be assumed that two inches of the fifteen find their way, within the region, into the sand and gravel in which the subsurface waters occur, the assumption will hardly be thought extravagant. This, however, will account for the underflow much more completely than can the most sanguine estimate of the waters received from the mountains. And if the latter be entirely ignored we may proceed to estimate the efficiency for irrigation of the assumed annual supply of two inches saved. The vexed question of the duty of water is here suggested. But it is reasonably well

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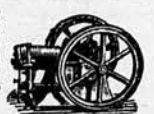
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ascertained that, properly distributed as to season, twenty-four inches is sufficient water to insure bountiful crops. The region under consideration has an average of fifteen inches of rainfall and has, therefore, a mean deficiency of nine inches. The two inches assumed to be saved each year is sufficient to supply this deficiency for one in every four and one-half acres. This kind of mathematics is too sanguine, did you say? Then let us say that there will be recoverable, sufficient water to irrigate one acre in every ten at the western line of the State.

Next consider the situation at the eastern boundary of the western half of the State, where the mean annual precipitation is twenty-four inches—sufficient, if properly distributed through the seasons, to insure bountiful crops. Here, also, the conditions of soil favor the rapid passage of an excess of moisture to the subterranean reservoir. It is doubtless safe to assume that not less than five inches is thus annually placed within reach of the irrigator. This is ample for the equalization of the distribution of moisture over the entire land surface of this, the central portion of the State.

The conditions described as existing in the western edge of the State are changed by an imperceptible gradation to those of the center, so that the mean of the two extremes may be taken to represent the average condition of the region. It is not likely that less than 10 per cent. of the land in the extreme western portion of the State nor more than 90 per cent. in the central portion will eventually be irrigated. The sum of these extremes is 100 per cent., and the mean, representing the area which, according to this calculation, may eventually be irrigated, is 50 per cent.

It has been truly said that in no irrigated country in the world is so large a proportion of the land watered. It should also be said that no country in the world, save the adjacent regions, constituting a domain 400 miles wide and approximating 1,000 miles long, is so favorably situated for fertile land and accessible supply of water. This is the region, these are the conditions which shall develop the most perfect agriculture and the greatest agricultural prosperity in the world. And, it may be added, here are the people to begin the development and help enjoy the prosperity.

Meeting of Irrigation Executive Committee.

The Executive committee of the Kansas Irrigation Association was in session all day Monday at the office of its Chairman, John E. Frost, Land Commissioner of the Santa Fe. In addition to sundry routine business and the informal discussion of various phases of prospective legislation, a Legislative committee was partially completed, as follows:

First district—F. Wellhouse, Fairmount.

Second district—J. S. Emery, B. F. Smith, Lawrence.

Third district—R. E. Carlton, Pittsburg; John S. Gilmore, Fredonia.

Fourth district—F. D. Coburn, Topeka; J. E. Frost, Topeka.

Fifth district—J. K. Wright, Junction City.

Sixth district—E. D. Wheeler, Ogalah; W. E. Reeder, Logan.

Seventh district—G. W. Watson, Larned; C. H. Longstreth, Lakin.

At large—E. R. Moses, Great Bend; W. A. Smith, Walker.

Ex officio—J. W. Gregory, Garden City; D. M. Frost, Garden City; H. V. Hinckley, Topeka.

A sub-committee, consisting of Messrs. Frost, Coburn, Cowgill and Hinckley, all of Topeka, was instructed to prepare a bill in accordance with the Hutchinson convention resolutions.

The following, whose names do not appear on the roster of the Legislative committee, were present at the meeting: G. G. Gilbert and J. H. Churchill, Dodge City; C. T. Vinson, Cimarron; G. W. Clements, Wichita; Robert Hay, Junction City; E. N. Keep, Garden City; Alfred Pratt, Syracuse; D. J. Hanna, Hill City.

A VISIT TO SOUTHWEST MISSOURI.

The writer made a pleasant and profitable few days' visit last week among the breeders of southwestern Missouri, contiguous to the well-known and popular "Memphis Route," that extends from Kansas City to Birmingham, Ala. The visits were made in Vernon, Jasper, Dade and Green counties, and on every hand the emigrant's covered wagon was seen coursing for southwestern Missouri and northern Arkansas. The great influx comes from the great Northwest, seeking a more genial climate and some place without the country of hot winds and too frequent short crop seasons, in which to build up a home.

THE JASPER COUNTY HERD.

Among the prominent and successful swine-breeders visited was Mr. T. J. Stemmmons, whose 700-acre farm lies near Avilla, in eastern Jasper county, where he came from Kentucky and settled thirty-five years ago. The pure-bred stock on the farm consists of registered Poland-Chinas and Oxford Down sheep. About 100 head of the former and 300 pure-bred and high-grade sheep were looked over by the writer.

The Poland herd was founded twelve years ago by individuals selected from the best strains. The harem kings in service last year were None Better 9781 S., by Skip 6090 S.; dam Daisy Lee 5298 S., she by the noted Ben Harrison 2805 S. One of his ab's assistants was Governor Black U. S. 12004 S., he by Governor C. 8172 S., he by Black U. S. 4209 S.; dam Bessie Keller 27308 S., by Governor Hill 6063 S. He was bred by J. R. Campbell & Son, whose brief herd notes appear further on. The most celebrated assistant was Preval 12005 S., that was farrowed May 29, 1893, and won second prize at the World's Fair in the ring for boar 6 months old and under. He was bred by Klever, of Ohio, sired by Billy Greer 9562 S., he by Black Dan 9345 S.; dam Lady J. 2128031 S., she by Business 7429 S., and out of Lady J. 21202 S. His sons and daughters of the spring farrow of 1894 had about all gone out, yet enough were looked over to satisfy us that they ranked well up among the top Poland sires of the West. A late recruit had come to the farm that was bred by Deffer, of Nebraska. He, Black Prince (Vol. 9), was sired by Black King 8398 S., he by Advance 7537 S.; dam Seldom's Vannie 21195 S.

The reader will up in Poland history will at once recognize the strength of herd in its paternal make-up. There are now about twenty brooders, a major portion of which are of the long, broad-backed kind, with deep, heavy hams and in every way typical brood queens. Among them well up to the front is Lon Bess 18669 S., Minnie Bess 18476 S., and Daisy Lee 5298 S. They are Curwins of the profitable kind, farrowing from seven to nine each. One of the attractive ones is Lillie 5296 S., by Ben Harrison. Such is her conformation and characteristics that six of her daughters have been, from time to time, retained in the herd. One of them, White Face, was out in her show ring dress at the late Springfield, Mo., fair, and won first in ring for sow and litter. Four of the litter left the farm for \$80, and the two best lassies were retained on the farm for future usefulness. Her two sisters, Mo's Gem 29761 S., and Black Jet 29763 S., by Trenton Rock 6086 S., and out of Daisy 5297 S., have just such coats as will suit many breeders whose animals are too light-coated. The Trenton Rock sows all impressed us with their general character.

Among the young misses that have come from abroad to the farm lately is Tecumseh Girl 28039 S., bred by Williams, of Illinois, sired by Tecumseh Boy 4240 S.; dam Bonnie Girl 26122 S. Among the fall litters by Preval is one out of Black U. S. About twenty young lads and same number of lassies belonging to the late summer and fall farrows are coming on for next spring's demands.

More could be written concerning the Jasper County herd, the sheen and their practical and progressive master, but space forbids, and the other page will be given at some future time later on, save this one exception, and that is, the herds are undoubtedly popular ones, else more of the produce would be found yet on the farm.

THE WHITE OAK HERD.

Four and a half miles northeast of Avilla the visitor finds the 494-acre farm of Mr. James R. Campbell, the veteran Poland breeder of twenty years. He is in company with his son, is now engaged in breeding Poland-Chinas, Oxford Down sheep and Black Langshans. The swine herd now consists of 300 head, all ages, all registered or eligible, and of the best individuals and strains. The aged fellows in service last year were Modest Duke 12653 S., that was bred on the farm, sired by Governor C. 8172 S., he by Black U. S. 4209 S.; dam Modesty 18636 S., by Proud Duke 574 S., and out of Black Queen 5th 7805 S. He was out in the southwest Missouri show rings in his yearling form and weighed over 500 pounds. Always won when out. He is assisted by the long yearling, Wilkes Tecumseh 11760 A., that was bred by Lambing & Son, of Iowa. His sire was Guv Wilkes 17777 A., he by George Wilkes 4487 A., and he by King Tecumseh 1793 A.; dam Black U. S. Victoria 64924 A., out of Black Pet 61744, by Black U. S. 18345 A. The reader will note his breeding and will find him on inspection as good individually. Along in close company comes the four-year-old White Face 12081 S., bred by J. F. Duffield, of Ohio, sire A. A. 6845 S., he by Black U. S. 4209 S.; dam Dolly 10445 S., she by Dexter 4706 S., out of Corwin Queen 3567 S. His breeding and worth is very plainly demonstrated throughout the herd and he belongs to the class that has been proven and found worth keeping in anybody's herd. Among the recruits that recently came to the White Oak herd is the young fellow bred by Lachner Bros., of

Iowa, Osgood Dandy Wilkes 12709 S., by Dandy Wilkes 8967 S., he by George Wilkes 5950 S.; dam B. Osgood 29920 S., by Osgood 3177 S., and out of Buckeye 21177 S.

The reader will at once recognize the strength of the harem king division of the herd, and if he makes a visit for the purpose of looking over their sons and daughters will immediately reach the conclusion that that Jasper county Irishman, Jim Campbell, and his boy, have trudged along to the top round of Poland-China breeding and ought to be better known throughout the West.

In the grand strong array of about 100 brooders is the six-year-old Dolly 10445, that was bred by Lamm, of Ohio. On looking up her extended pedigree one finds that she has eight Corwin crosses, and such is her character and ability to produce the kind wanted that she now has the credit of being the ancestor of about one-fourth of the harem queens in the herd. Close up by her side comes Lady Primrose 9686 S., that was farrowed December 18, 1888. Her sire was Maid's Corwin 3359 S.; dam Dixey Girl 6470 S. Keeping her company is the five-year-old Black Bess, bred by Hatfield, of Ohio, sired by Black U. S. 4209 S.; dam Idea Lady 9047 S. Quite a string, both sexes, of her descendants are found on the farm because of their usefulness. The reader will find a set of long, broad-backed, deep, mellow and fine-coated individuals belonging to the Trenton Rock family, that are sure to convince one of their worth in laying on a little heavier coat for those that are a "little off" or light-coated. The best female, perhaps, in the herd belonging to this family, is Lady Trenton Rock, by Trenton Rock 4521, he by Tecumseh Boy 1357 S.; dam Lady Champion 25597 S., by Champion W. 9491 S. Trenton Rock 4521, her sire, is now owned by Mugg & Co., for whom they have repeatedly refused \$500. Her descendants now in the herd are all good ones and are readily singled out by the visitor.

In the youngster division there are about sixty young boars and eighty gilts, ranging from March to July farrowings. They were mainly sired by Modest Duke and Wilkes Tecumseh, and are an actual surprise for any visitor, no matter how much "stuck up" he may be on modern Poland-China ethics. Only six of the thirty-five yearling boars that sold for \$45 and upwards, are now on the farm. These six belong to the Trenton Rock, Black U. S. and Harkrader strains, and in common with the individual make-up of the herd are of the long, broad-backed, deep-hammed, mellow, early-maturing kind. The Messrs. Campbell are what may be termed "good feelers," and having secured the best possible for foundation stock and exercised good judgment in nicking have now just what every one engaged in swine husbandry ought to have, a profitable herd of toppy swine. In the gilt division are some very strong ones, ranging from sixteen months down, some of which are awaiting the order for going out. About thirty-five aged sows and sixty gilts are being bred to Modest Duke, White Face, Wilkes Tecumseh Osgood, Dandy Wilkes, and some few will go to a Butler Darkness young fellow that is expected to arrive in a few days.

The Oxford flock of sheep consists of seventy head of registered and high-grades. Over 200 Langshans of the best strains may be seen at White Oak farm. Eggs in season for \$1.50 per setting of fifteen, or two settings for \$2. The Campbells have reached that stage in their breeding operations that they now wish to extend their acquaintance with Kansas people, feeling, as they do, that they are abundantly able to make it both interesting and profitable for new acquaintances.

MR. CHAS. M. COX.

Among others engaged in breeding high-class Poland-Chinas in southwestern Missouri, is Mr. Chas. M. Cox, whose farm lies four miles southeast of Golden City, a richly little city on the "Memphis Route." The homestead of 240 acres is in Dade county, where he has been breeding registered Poland-Chinas since 1887 and now the herd consists of 120 head, all ages. The spring of 1893 pig crop has been pretty nearly cleaned up, though a few good young boars and gilts are now ready to go out.

Doing service at the head of herd is the aged fellow, King of Ozark 9335 C., bred by Rankin, of Illinois, sired by Moorish Corwin; dam Perfect 2d 17706 C., she by Duke of Vine Grove 5803 C., and out of Perfect 8998 C. He is assisted by the three-year-old Shep, sired by Moorish King 4643 C., he by Hoosier Tom 767 C., and he by Tom Corwin 575; dam Black Bess 59th, by Doty's Index 3211 C. and out of Black Bess 8th 11724 C. Two others have been and are being used—Floyd 7978 S., by Black Duke 7297 S., he by Corwin Prince 1143 S.; dam Belle C. 10598 C., she by Gold Dust 31 1589 C. and out of Favorite R. 8192 C. He was bred by Sanford, of Indiana. Some of the more select brooders were sent to Preval 12005 S., the second prize World's Fair winner, now at the head of Mr. T. J. Stemmmons' herd. A late recruit, the young chap farrowed May 16, 1894, bred by F. B. Hart, of Illinois, sired by Archer's Duke 11695 C., he by Earl of Duffield 9847 C. and he by A. A. 19695 O.; dam Courtney H. 30268 C., she by Free Trade 15729 C. and out of Ina 58392 A. The reader will see that he is one of the best of bred youngsters, and if he comes along as well as he is bred something good may be expected. His four grandfathers were A. A., Black U. S., Royalty and George Wilkes, all well known and great individuals, while on his maternal line he is just as strong, his grandmothers being Duffield's B. 53864 O., Bess Finch 3d 41658 C., Lady Tom Corwin 2d 38624 C., and Courtney 3d 34920 C.

Among the fifteen aged boars is Patti 27966 C., sired by U. S. Chip Jr. 28519 O.;

Working harness

will last longer, be tough, won't gall the horses, and is pleasant to handle if oiled with

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dam Sal Fox S. 49430 C. She has been on Mr. Cox's farm four years and is one of the stand-bys. Another one of the profitable kind that brings large litters and raises square, broad-backed sons and daughters was sired by Corwin Prince 1143 C. and out of T. J. L. 9696 C., by Pomp 2183 C. One sure to attract the attention of the visitor is a daughter of Elected 8873 C., he by Elector 7045 C.; dam E. T. Zelma 2d 24868 C., she by De Belzack 6659 C. and out of Zelma 18186 C. Space forbids that extended mention of the brooders that they are entitled to, save it is to state that a few of them, other than those that are the daughters of the first-mentioned boars, were sired by Ozark Chief 10351 C., he by Give or Take 1677 C.; dam Cozette 28630 A. The clearance sales have reduced the 100 head of youngsters to about eight lads of the spring of 1894 farrow, that are by King of Ozark and his assistant, Shep. Some twenty-five gilts are yet on the place. There is due to arrive in a few days a highly-bred young Wilkes fellow from Hoffman, of Illinois.

Mr. Cox's trade has been a very satisfactory one this year, and he is preparing for a larger and better pig crop for his patrons next year. He has reached that stage in experimental breeding that nothing but the best suits him, and if experience, time and money count for anything he is sure going to have what every progressive swine-breeder and money-making farmer wants—the best of the early, mellow, maturing kind.

THE DADE COUNTY HERD

of Poland-Chinas, bred and owned by Mr. Sam W. Cox, was found on his 480-acre farm, one mile from South Greenfield, by the writer last week. The herd was founded twelve years ago and now consists of ninety head, all ages. A major portion of the last spring pig crop has been sold, thereby causing a very satisfactory reduction at good prices. The two harem kings in service are Perfection Duke 2d 11679 S., by Perfection Duke 10221 S., he by Tecumseh Boy 4859 S.; dam Lady Perfection 28052 S., she by Victor 7318 C. and out of Lady Perfection 12100 S. He was bred by Harcourt & Bro., of Indiana, and put on his two-year-old form last September. His principal coadjutor is the four-year-old Trenton Rock bred by the Lloyd Muzz Co., of Indiana. He was sired by Trenton Rock 7315 C., and he by Tecumseh Boy 4859 S.; dam Belle Watkins 13430 S., she by Finance 3827 C. and out of India 2d 13435 S. Both of them are good individuals and well bred, as the reader will see by their record history. Trenton Rock 2d, being older, has reached his more matured form and will, we think, score the more points in a score-card contest. The very best description of him would be to see him, and the next best is that in all his conformation points he falls but little short in any of the Poland standard demands.

Among the well and long-kept brooders is the five-year-old Belle Watkins 13430 S., that was sired by Finance 3827 C., dam India 2d 13435 S. Her sire was by Sear's Corwin 1997 C., and he by Lord Corwin 1313 A. She farrows good, strong litters, ranging from six to ten, and nearly all are among the first selections by the visitor. In close company is the five-year-old Dell Watkins 13429 S., by Russell H. 5978 S.; dam Envy 13433 S. This harem queen, like her companion, Belle farrows two litters a year and is one of the profitable kind. Her daughter, Dell Watkins 2d 26821 S., by Limestone Chief 5979 S., is, perhaps, the most prolific female on the farm, usually farrowing nine to thirteen, and always raises them. Another daughter of Limestone Chief is known as Fanny C. 26820 S., out of Dell Watkins. She farrowed only thirteen at her last farrowing. Still another one of the Watkins family that is sure to be found in the final short list is Emma Watkins 2d 21675 S., by Limestone Chief; dam Emma Watkins 13431, by Blaine 498 S. The reader will readily understand that Mr. Cox pursues a safe and sure practice, that is, he keeps those females that, after satisfactory trial, have proven prolific, are good mothers and produce the broad, deep-hammed, growthy kind.

Several desirable recruits to the female division of the herd have been added during the past two months. One of the most select ones is the young miss that was farrowed February 27, 1894, that was bred by Wakeman Bros., of Odessa, Mo. She was sired by Young Stem 10293 A., he by Stemwinder 7971 A.; dam Lady Crow L. 4884 A. She is a grand good one and was shown in a strongly-contested ring this fall, winning first place. Close up in her company is a very fine individual that was bred by J. W. Foster, of Aulville, Mo., sired by Lafayette Victor 12189 S.; dam Lady Oxford 28516 S. On reference to her more extended pedigree one finds her richly bred, and on an inspection she is just as good as an indi-

(Continued on page 12.)

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.

"FOR MY SAKE."

Three little words, but full of tenderest meaning;
Three little words, the heart can scarcely hold;
Three little words, but on their import dwelling,
What wealth of love their syllables unfold!

"For My sake" cheer the suffering, help the needy;
On earth this was My work; I give it thee.
If thou wouldst follow in thy Master's footsteps,
Take up My cross and come and learn of Me.

"For My sake" let the harsh word die unuttered,
That troubles on the swift, impetuous tongue;
"For My sake" check the quick, rebellious feeling,
That rises when thy brother does thee wrong.

"For My sake" press with steadfast patience onward,
Although the race be hard, the battle long.
Within my Father's house are many mansions;
There thou shalt rest and join the victor's song.

And if in coming days the world revile thee,
If "for My sake" thou suffer pain and loss,
Bear on, faint heart, thy Master went before thee;
They only wear His crown who share His cross.
—The Churchman.

EYEBROW CULTIVATION.

How to Give Added Character to One's Physiognomy.

Curiously examining the pretty toilet articles that lie in great profusion on the dressing table, you come across a tiny brush, delicate and white, with a finely chased silver back. You wonder at its purpose.

"What is this for?" you ask, holding it up. The owner looks at it for a moment with a thoughtful, puzzled expression. Suddenly her face clears. "Oh, yes, that's my new eyebrow brush," she explains.

The disciples of physical culture have a new cult. They devote themselves to the eyebrow and eyelash, for the possibility of the brow and lash as a factor in facial expression is being more fully appreciated. Indeed, Buffon, the naturalist, places the eyebrow next in importance to the eye itself in giving character to the physiognomy. This is partly because, he says, of the marked contrast of this feature to the others of the face. The brows are a shadow in the picture, bringing its color and drawing into strong relief. Eyelashes also contribute their effect; when long and thick they overshadow the eye, and make it appear softer and more beautiful.

It is, indeed, claimed by many that the eyeball itself is incapable of expression; that it is the drooping or sudden lifting of the lid which speaks. These even pass by the dilating or



LOVELY BROWN EYES.

contracting of the pupil, and the sparkle of the eye, and will not admit that they are able, independent of the lid, to convey a suggestion of emotion. Whether this be so or no, it is certainly true that the slight elevation of the under eyelid—the expressive one—produces that languishing look which the Greek loved, and which one sees on the face of Venus.

The Turkish and Circassian women use Lenna for penciling the eyes, while those among the Arabs of the desert blacken the edge of the eyelid with powder, and draw a line about the eye to make it appear larger. In fact, it is whispered that these women of the desert are not the only ones who make use of the device. The Spanish grand dames squeeze orange juice into their eyes. It is a trifle painful at first, but

it cleanses the ball and imparts remarkable brightness temporarily.

Eyelashes are thickest in the middle, and taper toward each end, and are constantly being renewed. Each hair matures in five months, and then drops out, to be succeeded by a new one. Long and silky eyelashes are said to be a sign of gentleness.

The ideal brows are arched, well marked, though not heavy, and distinctly separated. Although, indeed, the Roman motive of beauty included a small forehead and united brows. Ovid tells us that the women of his time cleverly painted them so that they appeared as one.

The perfect eyelid should form an oblong, for the large, round eye in a circular aperture is indicative of boldness; the small circular one of pertness. Lashes should be long and silky.

The care of the brows is a very simple matter. At night, just before retiring, take a little pomatum on the tip of the forefinger and rub it gently into the arched eyebrow. Then lightly pass a towel over the same. This is to promote the growth. "We do this every night and morning," as one maiden jocularly remarked; "we have braids." In the morning the sticky substance is carefully washed out with a soft cloth and warm water; then a little fragrant eau de cologne is applied, and the tiny silver-mounted brush comes into play. It gently pats and smooths the fine hairs into a slender, arched line. If this be repeated every morning a deficient brow will quickly mend its ways and a wide, refractory one be brought into meek submission.

Eyelashes may have their ends clipped with the scissors once in every five or six weeks. This is all the treatment they require to make them long and curved.—N. Y. Press.

HOW TO SERVE APPLES.

Four Nice Ways in Which They Can Be Prepared for the Table.

The French cook who professed to cook apples in 400 different ways was not necessarily exaggerating. Here are some of the nice things which can be made:

Buttered Apples.—Pare and core six nice apples and place them whole in a saucepan with a piece of butter the size of an egg; put a teaspoonful of sugar in each of the holes where the cores were and stick a clove in each apple; stew very gently, covering the saucepan that they may cook tender by the steam; turn them occasionally, and when very tender lay them on a glass dish containing half-inch layer of apple marmalade; put a cube of red currant jelly on the top of each, dust with sugar and cinnamon and serve very cold.

Compote.—This is much superior to apple sauce. Put one-half pound of sugar and a pint of water in a granite preserving pan, add the thin yellow rind and juice of two lemons; boil until the scum rises, remove it and add six apples, pared, cored and quartered. Simmer until the apples are clear without breaking them if possible. It will take about 20 minutes.

Frosted Apples.—Simmer a dozen apples with their skins on in the water containing a small piece of alum. Put them over in cold water and when the skins will pull off with the fingers remove them and dip the apples in melted butter; sprinkle thickly with coarse granulated sugar and bake in a slow oven. If carefully done they will sparkle as if frosted. Pile in a pyramid and pass whipped cream with them.

Miroton of Apples.—Stew half a dozen pared, cored and sliced apples with a very little water, two tablespoonfuls of sugar and some powdered cinnamon. When reduced to a pulp spread this smoothly in a dish. Boil eight lumps of cut sugar with a teaspoonful of water and the thinly-grated rind of two lemons for a few minutes; add butter the size of an egg, a spoonful of flour, the yolks of two eggs and the white of one; mix all these well over the fire and spread over the apples. Whip the two remaining whites to a stiff froth and when the custard is cold pile the whipped whites upon it; sift sugar on the top and set in the oven a moment for the apples to brown.—American Agriculturist.

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.

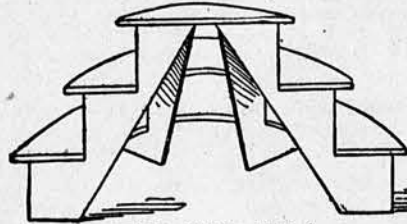


THE PROOTER & GAMBLE CO., CHICAGO.

STANDS FOR PLANTS.

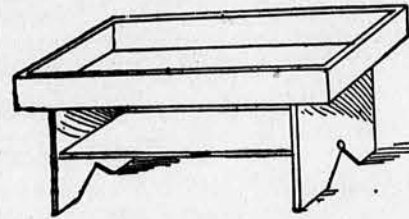
Some Very Pretty and Useful Ones Can Be Made at Home.

Many housewives find their greatest happiness in caring for plants during the cold winter months when compelled to stay indoors so much of the time, and many have wished for a



PLANT SHELF, FIG. 1.

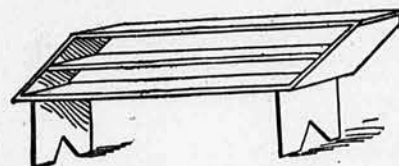
plant stand for years. Cannot the husband or son use two or three hours some stormy day in making one? There are a variety of models to choose from. An old pattern and probably the best, because it will hold the most, is the half circular one with three shelves (Fig. 1). It is made with three legs and two short braces between them under the lowest broadest shelf. The



PLANT SHELF, FIG. 2.

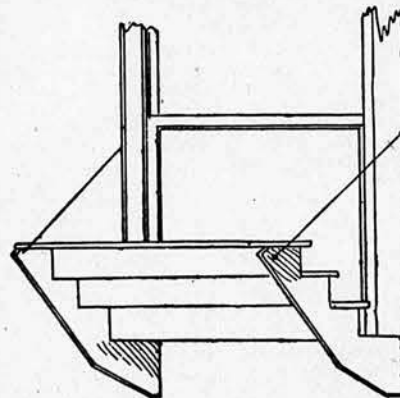
rear view is shown in the illustration, as its construction can be seen there at a glance, and this is the view exposed to the living room, also, the shelves being turned to the window. The shelves should be made broad enough to extend beyond the frame at least two inches.

A small, strong bench to hold a large window box (Fig. 2) is quickly made



PLANT SHELF, FIG. 3.

as follows: Measure the depth of the box it is to hold and make the legs long enough to raise it to a level with the window sill. They are composed of boards notched at the bottom. A top board is nailed or screwed in place and a shelf firmly nailed to cleats half way between top and floor. This shelf is useful for a variety of purposes as



PLANT SHELF, FIG. 4.

well as a brace to strengthen the bench. Another pretty stand is a rack added to the top of a bench (Fig. 3). It is faced to the window and rests upon the sill. It will hold a large number of pots on its two shelves and on the bench.

An arrangement which seems to be

the most perfect in every respect, because of its allowing the plants all the sunshine and being out of the way when the room is swept, is a plant rack made of hanging shelves (Fig. 4). The top shelf is eighteen inches to two feet from the glass, while the bottom shelf is on a level with the window sill. The weight of the rack and plants is supported entirely by the window frame to which it is screwed at the bottom and held by a strong wire at the top. It is easily taken down and put aside in the spring. A neat finish to all of these plant racks is dark green paint. Nothing is so pretty and appropriate for the green foliage and bright flowers.—Elizabeth B. Sage, in Orange Judd Farmer.

HINTS FOR THE TABLE.

RAPID eating is slow suicide.
PLENTY of time should be taken.
FISH and oysters are easily digested.
AN hour or two of rest should be taken after the meal.

MERE gratification of the appetite is very likely to shorten life.

DINNER should be of a lighter nature in summer than in winter.

A **QUART** of wheat contains more nutriment than a bushel of cucumbers.
THERE is a happy mean between eating everything and being squeamish.

It is not good to dine when in a state of mental or physical weakness.

TWO **POUNDS** of potatoes contain as much nutriment as thirteen pounds of turnips.

LIGHT soups, light desserts and light meats should have the preference in warm weather.

ABUSE of the stomach at dinner will be repaid sooner or later by that punishment which comes to the glutton.

VEGETABLES and fruits are to be used most generously at that season of the year in which they naturally mature.

BEGINNING the dinner with soup is the very best way to get the whole system in condition for assimilating a hearty meal.

Insects may be destroyed with hot alum. Put it in hot water and let it boil until the alum is dissolved. Apply hot, with a brush, and all creeping things are instantly destroyed without danger to human life or injury to property. Powdered borax and granulated sugar, sprinkled in places infested by waterbugs or roaches, will exterminate them.

Mr. H. Wettstein, of Marengo, Ill., found that Ayer's Pills, taken when the first symptoms of la grippe appear, prevent further progress of the disease, and he has yet to find the first case where these pills did not cure the malady. Every dose was effective.

I take great pleasure in stating that Mr. Chas. Bennett, optician, 713 Kansas Avenue, Topeka, has recently examined the eyes of myself and wife and adjusted glasses with thorough satisfaction and success. In her case there was marked astigmatism of sight, causing occasional neuralgic pain in the head. This has been relieved by the glasses. The service in both cases has been such that I heartily recommend him as careful and thorough to any one who may need his skill and care.

M. R. MITCHELL, M. D., Topeka, Kas.

"Among the Ozarks,"

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

The Young Folks.

A MODERN MIRACLE.



This is the jar of majolica ware That stood on the shelf, in the pantry there, containing a full and abundant share of luscious berry jam.



But a change came over the jar, 'tis said, it was no longer itself; instead it somewhat resembled a human head— This jar of berry jam.



And the people gathered from miles to see, and the wise men argued and couldn't agree how such a wonderful thing could be in a jar of berry jam.



So they wondered and marveled and stood aghast; no matter, the thing was resolving fast, and this is the way it appeared at last— The vessel that held the jam!

S. Q. LAPIUS.

PHYSICAL TRAINING.

How a Number of Boys Can Perform a Horse Pyramid.

The following description of a pyramid performed by an English class of boys was published in the *Gymnast and Athletic Review*, and will be found well worth trying:

"The horse is without pommels, the end of the buck in contact with the side of the horse at the saddle. Positions indicated as they appear when facing the side of the horse on which the buck stands.

"One headstand, head on buck, hands on horse, elbows well turned out.

"Two headstands on ground opposite the end of the horse.

"Two boys standing on ground at ends of horse facing out and raising legs of two front leaning rests, hands on ends of horse, feet supported as above.

"Two boys in lunge position, foot of advanced leg resting on shoulder of leaning rest, foot of other leg on the arm of the headstand (as near the armpit as possible).

"Two boys kneeling on one knee in front, and slightly to one side of the buck (inside knee raised).

"Two boys in front leaning rest, hands on raised knee, feet on buck.

"At the command: 'Into position—march.'

"One headstand stands on ground on far side of horse, hands on saddle.

"Two headstands stand opposite ends of horse facing in.

"Two boys standing on ground stand opposite ends of horse facing out.



"Two front leaning rests stand opposite ends of horse facing in.

"Two kneelers on one knee stand in front of the buck facing forward.

"Two leaning rests on kneelers stand behind above.

"Two lungers on headstand and leaning rest stand on far side of horse facing in (opposite neck and croup).

"At one. Lungers squat to stand on croup and neck. Kneelers on one knee down.

"At two. Boys standing on ground raise front leaning rests. Leaning rests on buck and kneelers on one knee in position. Headstand on buck and horse up.

"At three. Headstands on floor up. Lungers on headstands and leaning rests up (grasping ankle of headstand, putting the advanced foot on shoulder of leaning rest, and the other foot on arm of headstand, keeping most of the weight on leaning rests).

"At four. Lungers down to stand on horse, headstands on floor down, leaning rests on buck, and kneelers down.

"At five. Lungers jump to ground, front leaning rests on horse down, kneelers and one knee rise, headstand on horse and buck head roll off over buck.

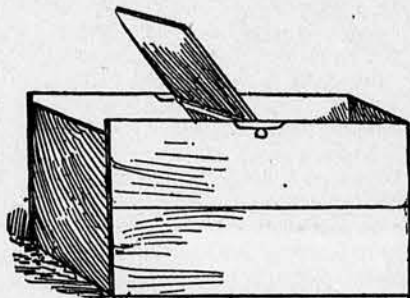
"This pyramid may be varied by substituting handstands on neck and croup for front leaning rests, in which case the lungers would come to straddle stand, inside foot on headstands arm and outside foot on head of handstand, inside hand grasping ankle of headstand and outside hand that of handstand.

"The far side of the horse may be filled up with leaning rests (hands on floor, feet on croup and neck, or headstands, handstands, etc., according to the number of men for which the pyramid is required).

DEVICE FOR TRAPPERS.

It Is Better Than All Others Because It Is Simpler.

As a trap for all purposes none surpasses the pitfall. The principle on which it works has the advantage of nearly all others, as it does not need setting or baiting, thus any number of game can be caught in a night. The cut shows how it is made, but care should be taken to have the box deep enough or it may hinder the game from passing through easily, and a small weight must be fastened to the



A DEVICE FOR TRAPPERS.

trap door to close it quickly, preventing the game which have already been caught from escaping.

For rabbits this trap is most effective when placed at the end of a tile or small culvert, but it can be used with good effect in any path or place where they run. For quails or other feathered game some corn or other grain may be scattered around and on it to serve as a bait. Unlike others this trap must be buried in the ground or snow, which fact renders it less of an obstruction to the wary game.—Carl F. Swanson, in *Orange Judd Farmer*.

Elephants Delight in Finery.

Elephants are passionately fond of finery, and delight to be arrayed in gorgeous trappings. An amusing instance of elephantine pride is narrated by Sir Samuel Baker. The elephant which usually led the state procession of a rajah being sick, the magnificent trappings were placed on one which had, up to that time, occupied only a subordinate place. The animal, delighted with its finery, showed its glee by so many little squeaks and kicks of pleasure that it attracted general attention. Not long after, another state procession was formed, and, the previous wearer of the gold clothes being restored to health, took his accustomed place and trappings, when the now degraded elephant, imagining, perhaps, that he was being defrauded of his promotion, was, with great difficulty, restrained from attacking the leader of the parade.

The Crown Prince of Prussia.

Crown Prince Frederick of Prussia is now in his twelfth year. He is so far advanced in his studies and so mature for his age that Emperor William is thinking of giving him an establishment of his own, with a separate retinue of servants, in order that he may early learn to govern. The crown prince is a remarkably bright lad, and is said by an English visitor to the place to speak our language fluently and talk it, not only rapidly, but well.

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

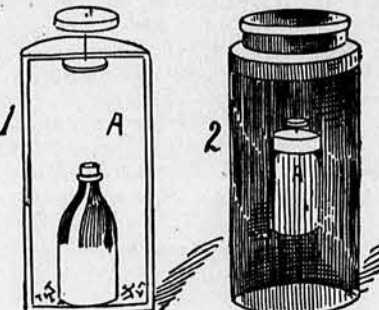
Royal Baking Powder

ABSOLUTELY PURE

AN AUTOMATIC DIVER.

How Boys and Girls Can Conduct an Interesting Experiment.

Here is an interesting experiment which is well worth a trial. Take a glass jar full of water; drop into it a small cardboard box similar to that shown in our illustration—No. 1. The section of the box there shown is of course very much enlarged in proportion to the jar given in the second figure. The bottom of the box is provided with a number of small holes, and into the center of the cover a hole should also be bored, in which should be placed a valve made on the inside of a cardboard disc and on the outside of a wide cork, the two being joined through the hole by a hairpin or a needle, the space between the two discs being about the width of a finger. The box should be ballasted by means of a few nails dropped to the bottom. Then take a small bottle half filled with the powder used in making soda water and stopped with a cork having a hole in the center, which should be placed inside. When this is done the box is ready for use in connection with the glass jar. Place the box in the water and it will at once sink to the



HOW IT IS DONE.

bottom of the jar on account of the water entering through the small holes in the bottom. But when the water penetrates into the bottle within the box and mixes with the powder it produces a great quantity of carbonic acid gas, which expels the water through the box and allows the latter to rise to the top of the jar, the gas inside keeping the inner disc of the valve full against the interior. When, however, the cork outside rises to the top of the water it releases the valve and the gas escapes. The box is now in its first condition, and the water, being enabled to enter by the holes at the bottom, again fills the box and sinks it until the gas is once more formed, when it rises anew to the surface. This rise and flow will continue for some time. This curious experiment may be performed on a larger scale in a water tank of a bath, the box, of course, being made in proportion.—N. Y. Recorder.

WISDOM OF GESE.

They Are by No Means As Foolish As They Are Represented.

Somebody who is indignant that the name of the goose should be a synonym for folly, has collected stories from all quarters to illustrate the true wisdom and dignity of geese. There are many varieties of wild geese, and whether they are all equally nice and dignified the book does not say. Still it is true that the bird is not a coward, and does not hesitate to attack birds much bigger than himself. The domestic goose is too well known to need a description of his person or habits, and most of the stories of this historian of geese are so old that you would hardly care to recall them here.

One or two stories seem somewhat newer. In Richmond park, in England, where many geese are kept, the nests of the setting geese were often destroyed by water rats. After consideration of the matter, the geese began to build nests up in the trees, instead of

upon the ground. There they hatched out their families and brought their children—not up, but down carefully to the ground, one by one, under their wings. Such intelligence as this is enough to redeem the name of the goose forever.

The goose is certainly a dignified bird in appearance. Whatever the haste of his gait, even when driven along, he never loses his expression of grandeur and importance. It could not have been a goose who suggested that he was silly. If you ever looked a goose firmly in the eye, you would know that he was much too proud to imagine such a thing.

She Picks Up the Scraps.

A ten-year-old girl in Denver makes a living for herself and her invalid mother picking up scraps. She was asked to pick up scraps where sewing was being done so much that the idea entered her head that she could make money that way, so she canvassed from house to house until she had a sufficient number of patrons to make \$1 a day. When sewing is completed the room is left until she comes and picks up all the scraps before it is swept. For, as is well known to all housekeepers, it is impossible to remove them with a broom without damaging the carpets, and the work of picking them up is very irksome to a grown person. The little girl has been at it for several months now and has more orders than she can attend to.

The Original Lord Fauntleroy.

Tommy Russell, the boy actor, who delighted so many people by his rendition of the part of "Little Lord Fauntleroy," is now quite a big boy. He has left the stage forever, he declares, and is now at school studying electrical engineering. Another "Little Lord Fauntleroy" was Elsie Leslie. She has left the stage, but only temporarily. Elsie expects to make her debut as a woman actress when she is "grown up."

When Tasks Are Hard.

When tasks are hard Don't say: "I can't," and sigh and shirk; But say: "I'll try," and go to work, When tasks are hard. —Youth's Companion.

Finest location in the State, Wichita Commercial College, Y. M. C. A. Building.

Pond's Business College,

Topeka, offers to give farmers' boys three months' tuition this winter for only \$15, and then next year, if they wish to come again and finish the course, they can do so for only \$15 more. Now, boys, here is your chance.

Homes for the Homeless.

The opening of two Indian reservations in northeastern Utah to settlers opens up over three and one-half million acres of fine agricultural and stock-raising land for home-seekers.

The Uintah and Uncompahgre reservations are reached by the only direct route, the Union Pacific system, via Echo and Park City. E. L. LOMAX, G. P. & T. A., U. P. system, Omaha, Neb.

Six Thousand Square Miles of Wealth.

The vast fertile valleys of the two Indian reservations in northeastern Utah, soon to be open to settlers comprise about 3,500,000 acres of the finest agricultural and grazing lands. The direct line to Uintah and Uncompahgre reservations is by the Union Pacific system via Echo and Park City. E. L. LOMAX, G. P. & T. A., U. P. system, Omaha, Neb.

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KANSAS FARMER CO., Topeka, Kas.

The State organization of the Farmers' Alliance in Kansas met quietly in Topeka last week, transacted its business and adjourned.

The sixth annual exhibition of the Poultry Association of Kansas, will be held January 7 to 12, at Topeka. A fuller announcement will appear next week.

On December 1 the visible supply of wheat in the United States was 85,159,000 bushels, surpassing all former records. The immense quantities of this cereal already fed to live stock makes, apparently, no impression on the accumulation in store.

Much as every writer would like to chronicle the return of better times, the revival of prosperity, the same expression of dull disappointment continues to prevail in the reviews which record that which has taken place, rather than the hopes of the reviewers.

The Treasury department has figures from which it estimates the total production of gold in the United States for 1894 at \$13,000,000. This is but little more than the value of the live stock slaughtered and sold for slaughter in Kansas alone, the amount of this being over \$42,000,000.

It was reported in Saturday's dispatches that the closing of the refineries of the sugar trust, whereat there was general surprise, brought about by the managers in order to depress the market price of the stock, and that on the decline they bought immense blocks of it. The gains of Havemeyer alone are estimated at \$50,000,000. Who ultimately pays this profit?

During December and January many of our readers in renewing their subscriptions desire also to send for other periodicals, and get them at a combination rate. If such will send us a postal card, asking for price on a given list of papers, we will be pleased to answer, and can furnish subscription to any periodical published in America, even if it is not in our regular clubbing list as advertised in our supplement.

There has just appeared, from the government printing office, the census report on "Agriculture by Irrigation in the Western Part of the United States," by F. H. Newell, special agent. Mr. Newell's well-known habit of thorough and conscientious work is sufficient guaranty of the accuracy of this publication. It is the best compendium of information on irrigation in this country yet published. The pages of the book are 9x11 inches and there are 283 of them, with maps and illustrations. But a small edition has been printed. Those who write immediately to their Representatives in Congress, or Senators, can procure copies.

DR. MILLER AND ECONOMIC SCIENCE.

In another place in this paper appears a letter from Dr. E. P. Miller, of New York city, in which he seeks to controvert some editorial statements of a few weeks ago. It seems to be impossible for the New York doctors of finance to conceive any idea of monetary affairs whose alpha and omega are not comprehended in the maintenance of the gold standard. Our correspondent is fond of predicting the direst calamities to follow the adoption of any other course than that which revolves around the maintenance of this, the gold standard. He says: "I am prepared to show that the free and unlimited coinage of silver on a ratio of 16 to 1 would result inevitably in the banishment of gold, not only as a standard of our money, but as the money of the people." And we are prepared to admit this without argument.

This disposes of most of our friend's disquisition. What then? He says: "If silver coinage is made free it would cause a panic in this country surpassing all the panics in the past history of the country put together." Would it? Gold and silver were both summarily driven out of circulation in 1861 and remained out for several years, and while during some of these years the country was suffering the devastating effects of one of the greatest wars of modern times, those years were the most prosperous years for common people this country ever saw. Nor was their prosperity arrested until our financiers took measures to lure gold from its hiding, to restore the gold standard. When have panics ensued upon the disappearance of gold from circulation? When has this coward, gold, ever been called back to circulation and panics not resulted?

The discussion of the financial question should not be one of politics. It is one of history and of philosophy. Prophecy, unsustained by these, is mere opinion, and is no more valuable when it emanates from New York and from a gentleman of age and experience and wide information, such as our correspondent possesses, than when from some well-informed source in the "West" or "South." New York assumed, and the President of the United States and Congress acted on the assumption, that the panic from which the country has not yet recovered was, in some way, attributable to our law with reference to silver. This law was repealed and the panic intensified. It is not forgotten that two schools of politicians attribute this phenomenon to the tariff, one asserting that it was because the tariff was to be lowered and the other declaring that it was because the tariff was not lowered sufficiently nor soon enough. A more tenable view is that no possible handling of the tariff could have prevented the panic or have arrested its great development after the repeal of the Sherman law. There was ample cause, outside of the tariff, for the panic, as may be seen by a careful analysis of the situation.

Great stress is laid upon the fact that prior to 1873, when free coinage of silver was the law, but little was coined. What has this to do with the present question? Is it intended to convey the obviously erroneous impression that if free coinage were re-established at the ratio of 16 to 1 but little silver would be coined? Surely our correspondent does not think the people of the "West" and "South" are such guys as to accept such inference. In another place in this paper it is shown how even the diverse kinds of money now in use can be kept at par with each other.

When many of the original debts representing obligations now existing were incurred, one bushel of wheat would discharge a dollar of the obligations. The Western farmer has been admonished to "be honest" and consent to such changes in our money that two bushels of wheat are now required to discharge a dollar of these obligations. A horse would then pay \$100 of these obligations; the farmer has been "honest" and now pays two or three or more equally good horses to take up his note for \$100. Four pounds of cotton would

then pay a debt of a dollar; the Southern farmer has been "honest" and now he pays sixteen pounds of cotton to cancel the one dollar of the debt. We are asked to continue to be "honest" while the monetary system of the country is crowded still more completely upon the narrow gold basis and the dollar is still further and continuously enhanced in value.

The people have heretofore accepted all invitations to move in the direction of the exclusive gold standard and have endured the resulting depreciation of prices and panics, and, though they have sometimes been reluctant about it, their friends, the money-changers, are warranted in the assumption that it is worth while to urge them still further in this direction.

The people generally are little interested in maintaining a market for silver. But they want the stability of values, which cannot be had on a shifting or relatively contracting basis, such as is furnished by gold alone.

CARLISLE'S NEW CURRENCY SCHEME.

The money of the United States consists of gold and silver coin, treasury notes (or greenbacks) and national bank notes. Certificates for gold or silver deposited with the Treasury, merely represent these deposits and are, by preference of the holders, on account of their greater convenience, used instead of the metals. Any of these kinds of money is good enough to pay for labor or any of the commodities produced by labor.

It is exceedingly desirable that every kind of money shall be as good as every other kind, and that there shall never be a premium on one kind of money as compared with any other. Two ways are apparent for accomplishing this. One of these is to make all kinds of money, directly or indirectly, redeemable in that which is most likely to become scarce, and then to make every necessary effort and sacrifice to make good the promise of redemption. This may and often does make it necessary to pay a premium on the money of ultimate redemption in the form of interest, but as long as this premium can be thus paid the various kinds of money remain at par and of equal purchasing power with the scarcest. This is the plan now pursued, and is proving an expensive one and has every indication of becoming still more expensive.

The equality of all these kinds of money can more surely be maintained by making them legally equal in payments, by enacting that the Secretary of the Treasury shall use such as he has in greatest abundance in the discharge of the obligations of the United States, and that all obligations, payable in the United States, shall be payable in any of these kinds of money at the option of the payee. There could then be no necessity for the government to maintain a gold reserve.

It thus appears that it is perfectly feasible, even with our present complicated system of several kinds of money, to maintain their equality for all purposes for which our people need money, except the one purpose of settling foreign balances, which are insignificant in amount compared with our domestic exchanges.

The plea now entered for what is called Secretary Carlisle's new currency scheme is that by retiring the greenbacks it will remove the opportunity to deplete the Treasury's gold reserve, will make the banks, and not the Treasury, maintain the gold reserve. There should be no necessity of any gold reserve of any kind. But the incentive which propels this scheme of the Baltimore bankers' convention, adopted and advocated by the Secretary of the Treasury, is not one of patriotism, of saving the government from embarrassment, but of gain for the banks. The scheme contemplates the permanent retirement of the \$346,000,000 of greenbacks. These are notes of the government and are evidences of debt owed by the government, but this debt bears no interest. They are excellent money and as such serve an admirable purpose. It were well if such notes should be substituted for all other forms of paper money. They would take the place of a considerable

proportion of the government's bonded interest-bearing debt. But the Baltimore scheme is to allow the banks to substitute as money their notes, evidences of their indebtedness, for these evidences of the entire people's indebtedness. The proposed retirement of the greenbacks, of course, means that they are to be paid, or if not paid, which they cannot be, since the government is now spending more than its revenues, refunded into interest-bearing bonds, thus converting a non-interest-bearing to an interest-bearing debt of the people, and that without in any way improving our monetary system. Further, the proposed replacement of the greenbacks by bank notes to be used as money is simply to enable the banks to issue as money and loan their own indebtedness, thus drawing interest on their debts. Should this system be extended no further than the substitution of banks' debts for the \$346,000,000 of greenbacks—non-interest-bearing government debt—the interest on these bank notes at 6 per cent. will amount to nearly \$21,000,000 per year, and this, in addition to at least \$10,500,000 in interest to be yielded by the bonds with which the greenbacks must be refunded, constitutes the direct incentive behind the scheme presented to Congress. The "flexibility" of the currency which will be secured by the scheme, that is, the power which Wall street will have to make money scarce or abundant, is perhaps even "a greater stake" than the interest plum.

HAY.

The value of the grass crop is not fully realized. In Kansas, where it is usually not accurately taken account of by the farmer, it is shown, by the recent summary report of Secretary Coburn, that the portion accounted for is so great as to place it in the third place in the list of great agricultural products, and to be worth over \$9,000,000 for the crop of the present year. The areas now being sown to alfalfa, upon lands which are reasonably sure to produce great crops of this great yielder, give promise of a rapid increase in the value of the Kansas hay and grass crop, an increase sure to be reflected also in the statistics of her live stock. Kansas alfalfa finds such profitable use on the farms where grown that only a little of the product of the 90,000 acres devoted to this crop finds its way as hay to the markets.

But Kansas prairie hay has made a place for itself in the markets on account of its superior excellence. In a recent letter to Secretary Coburn, G. H. Beasley, editor of the *Hay-Men's Gazette*, of Kansas City, calls attention to this fact and gives some good advice as to the proper handling of hay, and points out how the valuable lead which our superior hay has in the market may be made more pronounced. He says:

"Great trouble is experienced in the markets over the false grading of hay by both farmers who ship their own hay and shippers who buy from the farmer. We have always contended that the place to begin grading hay was, for tame grasses, in the selection of seed. Seed should be clean and pure of weed seed and other foreign germs. If wild grass, care should be taken to avoid weedy patches with the mower during harvest. Now, as the exponent of the hay shipping industry in the West, we ask if you could use your influence to get better results on the above-mentioned line. This would also save a large amount of money to the shippers in the curtailing of inspection fees after hay has arrived at destination. We think the end is a worthy one, considering the prominent place hay now occupies in the agricultural interests of Kansas. Are you aware that Kansas prairie is far ahead of any other State's product of wild grass, and all markets that receive it quote it above other wild grass, from other States? Such is the case, and with the interests of Kansas shippers at heart we ask that you use your influence by calling attention to the better methods that should be employed in preparing this product for public consumption."

☞ Get up a club for KANSAS FARMER.

Impartial Discussion of Economic Science.

EDITOR KANSAS FARMER:—In the editorial in your paper of November 14, under the heading, "After the Election," I find the following statements: "The KANSAS FARMER is not in any sense a political paper. It hopes for all the good promised for the State by any political party. It will discuss questions of economic science impartially. It expects at least a temporary revival from the extreme depression of the immediate past, and yet it cannot predict such prosperity as the industry and intelligence of the people should achieve until shall be enacted into law the demand of all parties in Kansas, for the re-establishment of the free coinage of silver at the old ratio of 16 to 1, and its restoration to its ancient place as a money of ultimate payment."

Impartial discussion will develop the truth on all economic questions. Let both sides have a hearing and we will soon get on the right platform. As you have announced your willingness to "discuss questions of economic science impartially," permit me to say that if, as you say, all the political parties of Kansas demand the free and unlimited coinage of silver on a ratio of 16 to 1, they favor a measure which would injure every industry, not only in Kansas, but in the whole country, more than any other public measure that could be adopted, unless it be lowering duties on foreign products. I am prepared to show that the free and unlimited coinage of silver on a ratio of 16 to 1 would result inevitably in the banishment of gold, not only as a standard of our money, but as the money of the people.

We cannot have bimetalism, that is, the coinage of both gold and silver, kept at par with each other, with the free and unlimited coinage of silver. Free and unlimited coinage of silver means the demonetizing of gold. Do you believe it would benefit Kansas, or any other State, to contract the volume of money one-half, which will be done by driving our gold out of circulation as money if silver coinage is made free and unlimited? The free coinage of silver would just as effectually banish gold from circulation as though a law was passed demonetizing gold. The only way that we can maintain gold and silver coin in circulation as money, at par with each other, is by limiting the coinage of the cheaper metal. It is an irrevocable law of political economy that where two metals are coined on a fixed ratio, and the coinage of both metals is free and unlimited, that the metal with the least market value will drive out the one with the greatest market value. This law of political economy, known as the Gresham law, is as unchangeable as the law of the Medes and Persians. It is not a law of Congress, but one operating with more power than any law Congress can pass. It is a law that has been in operation long before the laws organizing the United States mints were enacted. It is a law that swept every standard United States silver dollar out of circulation previous to 1873, about as soon as it was put in. The standard dollar has never occupied any "ancient place" of value to the country "as a money of ultimate payment." Why? For the reason that silver, during the whole history of the country from the time the mints were organized up to 1874, was the dearer metal of the two, and it was driven out of circulation on account of its commercial value. While there had been over \$156,000,000 of silver produced in this country previous to 1873, only about \$3,250,000 had been coined into standard silver dollars, and what was coined was taken out of circulation just as fast as it was put in. Silver was worth more to sell as bullion in the markets; had a greater value to the manufacturers and exporters than it had to be used as coin, and consequently those who wanted silver picked up the standard dollars as fast as they were issued and melted them up and exported them.

Now, the highest premium on silver during the period referred to was about 6 per cent., which was in 1859. To-day in the markets of the world gold bullion is worth 45 per cent. more than silver bullion. Will it be possible,

then, if the coinage of silver is free and unlimited, to keep gold in circulation as money when its bullion value is worth 45 cents on a dollar more than its coinage value. In other words, gold will be worth 45 per cent. more for use in manufacturing and for exporting than to use as coin, if silver coinage is made free and unlimited. Every intelligent man in this country must see that it could not be kept in circulation as money with free coinage. If the coinage of silver is made free and unlimited it will contract the volume of money in this country nearly \$600,000,000, by driving the gold out of circulation. You may talk about panics; if silver coinage is made free it would cause a panic in this country surpassing all of the panics in the past history of the country put together. It would practically lead to the destruction of the credit of the government and of the people.

Kansas, Colorado, California and Nebraska, and several of the Southern States, have endorsed this idea of the free and unlimited coinage of silver, and it looks as though there would be a combination between the West and the South with a view of carrying through that measure, and unless the people can be made to understand the question before 1896, there is danger that such a party may get control of the government. If so, worse times and more distress among the people than they have yet seen will follow.

The two questions that affect the prosperity of this country more than all others, is the protection of the industries and a sound currency of permanent and stable value. We cannot have both gold and silver with the free coinage of both metals so long as the difference in the commercial value of these two metals is so great. By limiting the coinage of silver we can keep about as much silver in circulation as money as we have of gold, and we can keep a larger volume of metallic money in circulation than we can if you have the free and unlimited coinage of both metals. We can maintain the gold standard and still keep as much silver in use as money as we have of gold.

In addition to that the national bank circulation should be supplanted by legal tender notes. The amount of silver, or its equivalent in United States legal tender notes, could have been greatly increased under the Sherman law, by having the notes issued to purchase silver at the option of the Secretary of the Treasury redeemable in a 24 or 3 per cent. bond if he did not have the coin to redeem those notes with. Instead of selling bonds to buy gold to maintain the credit of the government and keep its currency on a sound basis, as Cleveland is now doing, let the bonds be exchanged for legal tender notes that are issued to buy silver bullion with which to increase the amount of our silver coinage.

A measure of this kind will keep all of our gold and nearly all of our silver in use as money, and at the same time maintain all of our money, silver and paper, on the gold standard. This will be infinitely better than to change the standard from gold to silver, leaving us nothing but silver and paper as money.

DR. E. P. MILLER.
New York City.

No Bad Effects from Sorghum.

EDITOR KANSAS FARMER:—I wish to say, in regard to cattle eating sorghum, that I have made a practice of sowing from five to fifteen acres of sorghum each year for the last ten or twelve years, especially for fall feed. I turn in when it is in head and pasture till late in the winter; have lots of second-growth but no bad results; have lost cattle in corn stalks but never in sorghum.

E. J. DOTY.
Sedgwick, Harvey Co., Kas.

Kansas Swine Breeders.

EDITOR KANSAS FARMER:—The semi-annual meeting of Kansas Swine Breeders' Association will be held Monday, January 7, at 3 o'clock p. m., in Topeka. An interesting program is being prepared. The Kansas Swine Breeders' Association is the oldest and strongest live stock association in the State. The proceedings of its meetings

in the past have been of the highest order, entertaining, social and of wide influence. All who are interested in swine-growing are invited to be present at the coming meeting.

GEO. W. BERRY, President.

Weather Report for November, 1894.

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

A warm, dry, windy month. While the temperature was considerably above the average, the usual number of winter days (with mean below 32°) occurred. The rainfall was less than half the average, and this is the fourth consecutive November with light precipitation. No snow fell of sufficient depth to measure. The mean cloudiness was far below the average, and the wind velocity as notably above.

Mean temperature was 42.10°, which is 3.17° above the November average. The highest temperature was 73.5°, on the 26th; the lowest was 11.5°, on the 28th, giving a range of 61°. Mean temperature at 7 a. m., 34.27°; at 2 p. m., 51.23°; at 9 p. m., 41.45°. Rainfall was 0.93 inches, which is 0.97 inches above the November average. Rain or snow fell in measurable quantities on three days. There was snow (trace) on the 16th. There was one thunder shower. The entire rainfall for the eleven months of 1894 now completed has been 29.05 inches, which is 5.12 inches below the average for the same months in the twenty-six years preceding.

Mean cloudiness was 32.94 per cent. of the sky, the month being 11.51 per cent. clearer than usual. Number of clear days (less than one-third cloudy), seventeen; half clear (one to two-thirds cloudy), eleven; cloudy (more than two-thirds), two. There were no entirely clear days and two entirely cloudy. Mean cloudiness at 7 a. m., 28.67 per cent.; at 2 p. m., 36.70 per cent.; at 9 p. m., 35.50 per cent.

Wind.—The total run of the wind was 12,441 miles, which is 951 miles above the November average. This gives a mean daily velocity of 415.5 miles, and a mean hourly velocity of 16.92 miles. The highest velocity was 46 miles an hour, between 6:55 a. m. and 7:10 a. m. on the 9th.

Barometer.—Mean for the month, 29.245 inches; at 7 a. m., 29.265 inches; at 2 p. m., 29.220 inches; at 9 p. m., 29.256 inches; maximum, 29.674 inches, on the 28th; minimum, 28.599 inches, on the 15th; monthly range, 1.075 inches.

Relative Humidity.—Mean for the month, 58.40 per cent.; at 7 a. m., 69.40; at 2 p. m., 46.30; at 9 p. m., 59.60; greatest, 100, on several occasions; least, 19, on the 15th. There were two fogs.

Publishers' Paragraphs.

"Two Little Maids and Their Friends," is the title of a new book for the little folks by Mrs. J. K. Hudson, of Topeka, just published by the Hudson-Kimberly Publishing Co., of Kansas City, Mo. Those who have read Mrs. Hudson's books and other contributions to the press need not be told that this book is healthy reading and that it will make lasting friends of those who are so fortunate as to obtain it.

CHARLES DICKENS' SON.—Charles Dickens has written for the forthcoming volume of the *Youth's Companion* a series of reminiscences of his famous father. The same volume will also contain an article on "Lord Tennyson Among Children," by Theodore Watts, the celebrated critic of the *London Athenaeum*; and still another article on "Bismarck's Boyhood," by Sidney Whittman, one of the few Englishmen who have the privilege of an intimate personal acquaintance with the famous German statesman.

"The Progress of the World," the editorial department of the *Review of Reviews* for December, sums up the significant results of the November elections, discusses the probable action of Congress on the "Baltimore plan" of bank-note issues, comments on the progress of the civil service reform movement, and again emphasizes the extent of England's encroachments in Venezuela; the department also chronicles important movements in European politics, and the history of the war in China is brought down to date.

SMALL FRUITS.—No farm or garden is complete without its plot of small fruits. They are conducive to health, prosperity and happiness. It requires but little capital to found a plot devoted to such small fruits as strawberries, raspberries, blackberries, gooseberries, currants, grapes, etc. The cultivation required to properly maintain, unto bearing, amounts to nothing compared with the good to be derived from partaking of the fruit produced. Besides, plenty of small fruit keeps one in better health than anything else that can be eaten, thus saving expense of doctor bills. By all means, grow small fruit, and if you want to know how and all about what best to do, read the advertisement of B. F. Smith, on our Horticultural page; then send for his catalogue. It will pay you.

Home and Country. Corporal James Tanner, editor, for December (the Christmas number), is unusually attractive, especially so as to illustrations. Among the full-page ones "Merry Christmas," "Peace on Earth, Good Will to Man," and "Remember the Poor," are grand in conception, design and execution, and withal appropriate and

seasonable. Besides this feast, articles entitled "Christ's Personal Appearance," by Edgar Mels; "The Christmas Tree," by Marion Tollifero; "John Drake, a Christmas Story," by Clarence Herbert New; "Cyril's Recompense," by Bentley Hall; "First and Last," by Josie R. Nicholls; "Abdul-Kassim and the Iron Casket," by Sheik Abdullah Hussein; "Alexandre Dumas, Fils," by Alphonse Villiers; "Russia in Central Asia," by Olga Skobakoff, and "In Months of Darkness," by Captain Howard Layton, are all highly illustrated, while the supply of short stories and poems are fully up to the standard usual with this excellent magazine. A reduction in the subscription price—in this instance, at least, has not operated to cheapen the publication. Published by Jos. W. Kay, 53 East Tenth street, New York. Subscription reduced from \$2.50 to \$1.50 a year.

Gossip About Stock.

If you are needing some good poultry your wants may be well supplied at reasonable prices by our advertiser, J. M. Young, Liberty, Kas.

If you want a dog that is a good thing to have about, look up the card of Highland kennels, Topeka, and write for what you want. This is a first-class establishment.

Our readers desiring the services of a reliable veterinarian should consult the new card of Dr. U. B. McCurdy, of Topeka, who is a competent and successful veterinary surgeon.

The KANSAS FARMER takes pleasure in calling the attention of its readers to the new advertisement of Mr. L. N. Kennedy, of Nevada, Vernon county, Missouri. He joins our array of swine-breeders and desires a further and more extended acquaintance with the breeders and farmers of Kansas. Our field man, Mr. Brush, reports that his herd is one of the strongest and best bred Wilkes herds in the West. Consult Mr. Kennedy's advertisement and govern yourselves accordingly.

DR. ORR'S BOOK.—Readers of the KANSAS FARMER will be pleased to know that arrangements have been made whereby they can obtain this concise and well nigh invaluable "Farmer's Ready Reference or Handbook of Diseases of Horses and Cattle" in combination with this paper at a slight saving in cost.

The separate prices of these are:

Dr. Orr's Book.....	\$1.50
KANSAS FARMER, one year.....	1.00
Total.....	\$2.50

Two dollars sent either to the Kansas Farmer Co., Topeka, or to Dr. S. C. Orr, Manhattan, will secure both, making a saving of 50 cents.

C. M. Garver, Abilene, Kas., writes that Col. S. A. Sawyer made a very satisfactory sale of his Short-horn cattle last week. Twenty-six females brought \$1,157, an average of \$44.50, and eleven bulls \$595, an average of \$54. Thirty-seven Short-horns brought \$1,752, an average of \$47.35. At this time of the year, and in view of the fact that no calf was sold with the cow, the prices realized are good. The lucky Kansas purchasers at this sale were O. L. Thisler, Chapman; J. H. Taylor, Pearl; J. C. Strickland, Junction City; S. Reed, J. M. Enzle, Sam Garver, N. G. Hershey, S. K. Coffman, J. Slaughter, J. Eislaline, of Abilene; Geo. Chanron, T. Gribben and W. H. Stewart, Hope; J. J. Schneider, Chapman; C. Dobson, Solomon, and J. Gingrich, Wakefield, Kas.

C. S. Cross, proprietor of the Sunny Slope farm, near Emporia, Kas., writes and among other things states: "We have just added to the herd a young boar sired by the great J. H. Sanders 27219 O., that won at the World's Fair first premium in class, first boar and three sows over 1 year, first boar and three sows bred by exhibitor, and sweepstakes boar, any age, bred by exhibitor. The young fellow's dam, Graceful F. 63408 O., stood first as one of the three sows in company with J. H. Sanders and won first on boar and three sows over 1 year. He is a fancy individual in every respect and we think he has the best of a show ring record behind him. We now think him the plum of the herd. Both cattle and swine herds doing well and sales very satisfactory."

Kansas City Horse Market.

W. S. Tough & Son, managers of the Kansas City Stock Yards Co.'s horse and mule department, report the market during the past week as showing more activity than for some time past, both in attendance of buyers and receipts. Prices, however, showed no perceptible change for the better, except on extra smooth Southern mares and geldings. Draft horses continue to sell ridiculously low. There is little or no demand from the East as yet, and the only class that brings anything like a fair price in the way of an Eastern horse is the extra actor, and they must have plenty of size and finish. Prospects are that there will be a good steady demand from now on, but there is but little encouragement for feeders to hold for better prices. Rough, thin and old horses are hard to sell at any price. Anything in the way of a plug horse sold from \$7.50 to \$15. The Southern buyers all claim they must buy horses cheaper or go out of the horse business.

There is a little better feeling in the mule market on all stock with quality and finish. Prices, however, have not reacted any. Plug mules, rough or agey, sold for almost nothing, but good fifteen to fifteen and one-half hands, with plenty of quality, find a ready market.

THE MOST SIMPLE AND SAFE REMEDY for a Cough or Throat Trouble is "Brown's Bronchial Troches." They possess real merit.

Horticulture.

FRUIT TREE INQUIRIES.

The following inquiries were addressed to Secretary Coburn and by him referred to Prof. Mason, whose answers appear below. The inquiries are so pertinent and the answers are so full and explicit that it is with great pleasure that we present the correspondence to KANSAS FARMER readers.

—EDITOR.
Will you kindly answer the following questions, as a guide to me in buying fruit trees, etc. I will arrange them so that you can answer on this paper to save you trouble.

1. Are budded apple trees much superior to grafted ones?

2. Can we convince ourselves, when we receive the trees at the depot, that they are whole-root instead of piece-root?

3. Is it practicable, and good farming, to plant young trees in the same spot that apple trees were planted twenty-two years ago, and dead three or four years ago?

4. The agent claims that trees will do just as well in the blue grass sod as in well cultivated land, and that it is injurious to the apple tree to be cultivated, for it grows too fast.

5. Can an agent guarantee that the trees he will sell are proof against borers?

6. We can buy trees at 7 cents apiece; he charges \$5 per dozen. Do you think his trees are much superior?

7. Is it not possible for this agent to deliver to us inferior trees?

8. Cannot we buy just as good trees from our home nurseries as from Eastern firms?

9. We tell the agent that it is the climate that kills our trees; he says it is the bad trees. Which is correct?

10. He is selling a Russian apple tree. Is it not a fact that the so-called Russian apple tree is a fraud?

I have a piece of timber land. I have cleared all the brush, and cut down everything but white oak and walnut; had sheep on this piece all summer; it is as bare as the road now. I want to plant alfalfa on this land. Do you think it will grow under the trees? If so, must I stir the soil before planting, or will it do to sow it on the top and let it go? It will be very difficult to cultivate the land, because the stumps are not rotted yet.

Let me say that I am much interested in the quarterly reports, and the last one received, on feeding wheat, is particularly interesting.

I would very much like to get the book, "Kansas at the World's Fair." Can you inform me where to get it?

MARTIN WOODALL.

Netawaka, Jackson Co., Kas.

ANSWERS.

1. Budded apple trees possess no advantage to the purchaser over grafted trees. The practice of budding is wholly one of convenience to the nurseryman.

2. It would take a practical nurseryman to distinguish surely between trees worked on whole roots or on pieces, and the value of the tree does not depend upon these points. A well-grown tree with straight, clean trunk, well-balanced top and an abundance of branching and fibrous roots, is the one to select, whatever its mode of propagation.

3. A young orchard had much better be set on a piece of ground not before occupied by apple trees. I know of a case to the point where the young orchard covers the land occupied by the old one and also a few rows on new land adjoining. You could pass by in the road and tell to a row where the old orchard ground ends and the new land begins.

4. The best orchard-growers advise keeping the young orchard planted to some crop requiring clean cultivation, such as corn, beans or potatoes, till it comes into bearing, then seeding down to red clover or orchard grass. Blue grass or anything making a close, compact sod, should never be allowed in an orchard. It sheds water like an oil-cloth, while clover renders the ground loose and ready to receive rain, and its roots prepare the way for the

fine fibers of the apple roots to take hold of the soil.

5. No. The agent who represents his trees as being proof against borers, blight or any other devastation common to fruit trees shows evidence of intent to defraud and should be hustled on his way.

6, 7, 8. I prefer to answer these questions together. The farmer can buy all the first-class two-year-old apple trees of standard, well-tested varieties that he can haul home for 7 or 8 cents apiece. Why it is that so many will listen to the oily-tongued tree peddlers, who ask four or five prices for budded trees, and whole-root trees, and frost-proof trees, and blight-proof trees, and borer-proof trees, and trees bearing strange and wonderful fruits, and trees bearing two crops a year, can only be explained by the theory of the lamented showman, P. T. Barnum. He said that the American people liked to be humbugged.

When the average farmer will read carefully the farm and horticultural papers of his section of the country and the reports of his State Horticultural Society, make his selection of varieties in accordance with what he finds recommended there and buy his trees of his nearest reliable home nurseryman, then the oily-tongued rascal will disappear from the land and the honest representative of a reliable nursery will not be in danger of having the bull dog set on him when he calls to solicit the farmer's orders. There are hundreds of acres of the finest sort of apple trees grown in Kansas every year and shipped in car-load lots to Eastern nursery firms. How many of these find their way back here again in the filling of retail orders? It would make 'mighty interestin' reading,' if we could know.

The farmers themselves are to blame for the present condition of things. As long as a man can sell goods by offering something marvelous, either in trees, fruits, vegetables or flowers, there will be plenty of men in business with just those lines of goods (on paper), and the careful, conservative dealer and grower will suffer in proportion.

9. There is probably no country on the face of the earth where a young orchard of carefully-selected trees, well planted and well tended, will do better than in eastern Kansas. They come quickly into bearing and are quickly old and unprofitable. About twenty or twenty-five years may be considered the life of an orchard in this State, and plans should be made to have others coming on to replace them. No patent method of propagation or new-fangled stock will prolong the life of a Kansas orchard much beyond this age.

10. There have been a large number of varieties of apples introduced from Russia into the United States and Canada. Many of them possess great hardiness, rendering them of considerable value in the cold northern portions of our country. Very few of them are equal in quality to our old and well-tested sorts. None of them are worth paying fancy prices for, or planting in great numbers.

S. C. MASON.

State Agricultural College, Manhattan, Kas.

Rabbit-Proof Orchards.

Mr. H. C. Welty, contributes the following timely suggestions to the Soldier (Jackson Co.) Clipper:

"I notice to-day that some of our readers have, as yet, failed to rabbit-proof their young orchards. Will you please say to them that they may avoid the cold, tedious job of papering or staking the trees by using the following superior substitute, applying it four feet high (drift high), instead of two feet, with no undoing in the spring: To one-half gallon soft soap add one-half pound sulphur and one pint water; boil five minutes and stir well. Then apply hot to body of tree and under side of lower limbs, if headed low, with a broad, flat paint brush, or swab of cloth tacked around a plowman's mold-board cleaner, two and one-half inches wide. Carry the mixture in a light iron pot, and re-heat when it does not spread or adhere well. If nec-

essary to thin with water, re-heat and stir well. In place of soft soap one and one-half bars hard soap (nickel size), sliced and boiled in five pints water answers the same purpose and will be sufficient for from eighty to 100 trees. Safe remedy? I'd trust it on a million trees, and warrant them to come through 'smiling,' with smooth, healthy yellowish-green hides in the spring."

The Cherry.

Read before the Thanksgiving meeting of Shawnee County Horticultural Society, by A. B. Smith.

The cherry is a luxuriant fruit tree, and generally of rapid growth. The varieties are many; indeed, the blending and merging of the original varieties off into shades of differences has been so numerous as to disturb the best posted fruit man on the nomenclature of the cherry.

In the spring the tree is covered with beautiful clusters of snow-white blossoms. In early summer it is generally covered with a profusion of tempting, luscious, highly-colored fruit, the beauty of which is enhanced by the dark green foliage of this beautiful and symmetrical tree. It is the heavy foliage and refreshing fruit of the cherry which gave it preference along the highways of Germany, whereby shade and comfort might be imparted to the weary traveler.

The cherry came originally from Asia. Romans, in their eastern conquests, discovered the tree and its worth, and introduced it into Italy nearly 2,000 years ago.

The cherry tree responds promptly to cultivation and fertilizers, but if excessive force is employed it becomes so gross in its wood growth as to bear little or no fruit and is liable to split open in the trunk and perish. Pruning should be very sparing, cutting out only dead or vicious cross branches in mid-summer, as at this time the gum is not exuded which causes decay. Twenty feet apart is sufficient in the cherry orchard. When gathering the fruit the stems should go with the cherry, and for market or for transportation the fruit should be gathered only when perfectly dry.

The Early Richmond is found to be the best for drying, while the Dukes or Morellos are superior for canning; they retain their character and are very delicious.

The modern cherry tree is comparatively short lived. These later-day methods of forcing things to their highest standard and towards rapid results has found a ready respondent in the cherry tree, but the tree is early exhausted.

As a pleasing dessert fruit the cherry is everywhere much esteemed. It carries in its favor the merit of early ripening, juiciness, delicacy, richness and an acidity which the appetite craves in the early summer days.

The gum of the cherry tree is nearly identical with gum arabic, and the disposition of children to eat it is not misplaced for it is said to be one of the most nutritious substances known. The wood of the cherry is hard and durable, takes a good polish and is sometimes substituted for mahogany by the artisan mechanic.

The tree will thrive farther north than either the apple or the pear, but its southern limit is a latitude not much south of Kansas.

The cherry is best adapted to a dry soil; however, it will thrive in a great variety of soils. That which is good, loose and dry is its favorite home. When forced to grow in a wet soil, or where the moisture excludes the air from the soil, it soon decays and dies.

I submit the following reasons for having placed and cared for a thousand cherry trees for the last five years:

They are rapid growers and yield results quickly.

They are well suited to our dry climate, making their growth and turn-



M. Hammerly, a well-known business man of Hillsboro, Va., sends this testimony to the merits of Ayer's Sarsaparilla: "Several years ago, I hurt my leg, the injury leaving a sore which led to erysipelas. My sufferings were extreme, my leg, from the knee to the ankle, being a solid sore, which began to extend to other parts of the body. After trying various remedies, I began taking Ayer's Sarsaparilla, and, before I had finished the first bottle, I experienced great relief; the second bottle effected a complete cure."

Ayer's Sarsaparilla

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

Cures others, will cure you

ing their fruit before the heated and dry period of late summer arrives.

The fruit is timely and affords the acid which health and appetite seek in the season of its fruitage.

They are reasonably sure producers, and, as nearly as can be, are ripe and ahead of the depredations of insects.

Their beauty, symmetry and responsiveness are constant sources of admiration.

Our location is such that the fruit can readily be sent south and west where the tree does not thrive, and also north in advance of northern-grown fruit.

When the hair has fallen out, leaving the head bald, if the scalp is not shiny, there is a chance of regaining the hair by using Hall's Hair Renewer.

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

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

ESTABLISHED IN 1873.

WILLIS NURSERIES.

Contain a general assortment of choice fruit trees and other nursery stock, which we offer for sale in lots to suit. Our prices are low—stock and packing the very best. Write for free catalogue and always mention name of this paper. A special lot of choice well-grown two-year-old apple trees for sale.

Address A. WILLIS, Ottawa, Kansas.



INCORPORATED OCTOBER 29, 1894.

LOCATION, 1103-1105 NORTH FOURTH AVENUE.

HOME OF REDEEMING LOVE,

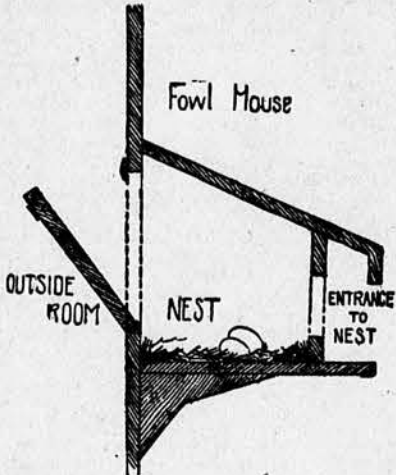
WICHITA, KANSAS.

Object.—To provide a home for penitent fallen women, and to rescue them from lives of shame; to reclaim, educate and instruct them in industrial pursuits, and to restore them, when possible, unto their homes and parents. BENEVOLENT FRIENDS, this institution is non-sectarian and non-partisan—each worker freely doing her part to "rescue the perishing, lift up the fallen and tell them of Jesus, the mighty to save." God is blessing the work and good is being done. Now, we want you to "help just a little" and enable us to do still greater good. The erring daughters must be reclaimed—they are more often stoned against than stoning. The Saviour said, "Neither do I condemn thee; go in peace and sin no more." Address REV. LYDIA A. NEWBERRY, WICHITA, KAS.

The Poultry Yard

Nests for the Hens.

The cut shows a plan for nest arrangement that possesses a number of advantages. A row of nests are made along a wall of the poultry house to which access can be had upon the



other side. The top of the nests slopes to keep the hens off and projects over the front to keep the nest as dark inside as possible. A narrow alighting board is placed below the entrance, while a door lets down in the rear, by which the eggs can be gathered from the outside room. If the fowls can be fed and watered through the partition below this hinged door there will be very little need of entering the poultry house at all, since the small door that lets the fowls into their yards can be opened and closed from the outside room by a cord and pulley. Keeping the nests as dark as possible will prevent the hens from breaking and eating their eggs.—Farm and Home.

Water-Can for Chicks.

A water-can for little chicks, which is easily made and very handy, is the design of Mr. M. H. Douglas, Wisconsin. Take a three-pound lard-pail and solder the cover on air tight. Then punch six or more holes as near the bottom of the pail as possible (see Fig. 1), and take the cover of a five-pound pail and set the three-pound pail in the center, soldering the two together in two or three places, so as to leave a space of three-quarters of an inch all around the bottom of the pail for water (see Fig. 2.) The water will come to about three-fourths of the distance to the top of the rim, but will not run over. It can be filled by putting it in a pail of water, upside down. The chicks can drink, but cannot get wet. The same may be made of a

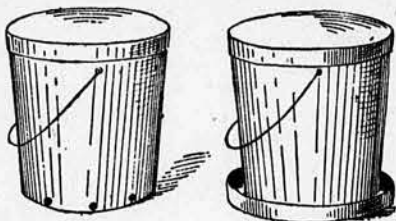


FIG. 1.

FIG. 2.

tomato can and a small, deep tin plate, or even with a tin cup and plate. The whole thing need not cost more than five or ten cents, according to its size, and if it is too light, it may be held in place by using a piece of brick on the top of the can. Fig. 1 shows a three-pound lard pail with the holes cut near the bottom. Fig. 2 shows the top of a five-pound pail soldered to the bottom of a three-pound pail—the arrangement ready for use.—Farm and Fireside.

Combs Made in Factories.

One of the most remarkable inventions of modern times in connection with beekeeping has just been accomplished in the manufacture of artificial combs by a German, Herr Otto Schultz, of Buckow. The only observable difference between it and the natural comb is that the cell walls are thicker and the cells have not the upward curve so often noticeable in natural comb. That this is not an objection must be evident from the fact that the bees take to it as a matter of course and no doubt it will soon be given a trial in this country.

Get up a club for KANSAS FARMER.

Poultry Notes.

Defects increase with age, and it is best to dispose of all objectionable members of the flock early in the season. Do not keep any chickens that appear stunted; they always degrade the appearance of a flock, and when once a fowl has been stunted it is not fit for breeding purposes, and in fact is not worth the keeping. Disease, or a tendency to disease, is hereditary.

Discard all hens that show a tendency to lay on fat, and retain those that under proper feeding will convert the food into eggs instead of fat. If part of the flock convert the food into fat instead of eggs, the profit the layers might give is eaten up by the drones. No fowl should be retained that does not in some manner add to the profit of the flock.

Much care should be observed in selecting layers for breeding purposes every year, and in a short time the entire flock will consist of nothing but layers.

A good layer has a small head, a long neck and back and a wedge-shaped body. The eyes are bright and the comb and wattles are of a bright red. She is energetic and active, starting at every sound or motion with an elastic spring.

A good layer usually lays eggs that will hatch well. The very fact that she is a good layer shows that she is in a healthy condition, the consequence being that the greater number of the eggs will be fertile and the chicks strong and vigorous.

A hen is a profit, until she is three years old; after that the number of eggs annually decreases, and she should not be kept longer unless she is a world beater and perfectly healthy.

The hens that moult early should be retained in preference to those that moult late. They will come into profit early in winter, when eggs are at a good price.

Hens that hatch and raise a brood make good winter layers. The rest they get by incubation fits them for better work when they start again.—Farm, Stock and Home.

In the Dairy.

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

At the State Dairy Association.

Capt. A. C. Pierce, of Junction City, one of Kansas' pioneers, discussed the question of silos. He advised every farmer to build a silo and fill it. He said: "If Kansas farmers are poor, it is their own fault. There is a good living for every one of them in the dairy industry. In Otsego county, New York, where I visited recently, farmers are making butter for less money than it commands in Kansas, are buying Kansas corn to make it from and still are doing well. They buy Kansas corn, and we in Kansas buy New York cheese, paying 20 cents a pound for it. If they can make money on that system, we can make a great deal more by feeding our own corn and making our own cheese. In New York they cannot get along without silos. Silos are as popular there as sewing machines.

"The dairy business is the best business in Kansas. It is the most reliable, the least affected by the ups and downs of other interests, and dairymen are the most independent of any class in the State. But we need to pay more attention to our system of feeding. We must provide better food during the winter months, and the silo affords the means. If siloed, there is corn enough between here and Junction City to feed all the dairy animals in the State. Silos are one of the factors that will redeem agricultural Kansas."

In the discussion which followed the paper, Prof. Georgeson related that on the Agricultural college farm fifty-six head of cattle were carried through the six winter months last year on the siloed products of twenty acres of corn, and the corn was by no means a heavy crop. The Professor was as earnest in his advocacy of the silo system as Capt. Pierce.

Prof. C. C. Georgeson, of the State Agricultural college, at Manhattan, gave an interesting talk on "Dairying

in Denmark." Prof. Georgeson was sent to Denmark by Secretary Rusk two years ago for the purpose of investigating the dairy industry there, and his talk was a summary of his observations on that trip. The Professor said that every farm in Denmark, large and small, is a dairy farm, and the effort is everywhere and always made toward the extension of the dairy industry. The cows of Denmark, the Professor said, are not what we would call very good dairy animals, their average butter yield being but 150 pounds per year, whereas in this country the cow that does not make 250 pounds is not considered worth a place in a first-class dairy. The breeds are different from any that we have in this country. Prof. Georgeson thinks that our Jerseys and Holsteins might be profitably introduced into the Denmark dairy system.

The Danes sell their butter largely in London, disposing of their supply so closely that they are obliged to buy vast quantities of oleomargarine for home consumption. It is a fact, although the Professor did not mention it, that the Danes last year consumed 18,000,000 pounds of oleo, much of which was made from Kansas cattle and went to Denmark via the Kansas City and Chicago packing houses. There are many co-operative creameries in Denmark, 1,400 or more in all, and they are uniformly successful. There are no failures and no friction between patrons and managers. All milk is bought on the test system.

Dairy cattle in Denmark are pastured during the summer months, but instead of being confined by fences, they are tethered out with short ropes. This is to prevent them from taking too much exercise and also to preserve the grass from being unduly trampled upon. The cows are moved four or five times a day. On the large dairy farms a man does nothing else but attend to moving the cows' tethering pins. Another man hauls water to them. The cows are put into the stable in October and are not once untied from then until spring. They are fed five or six times a day, watered twice and curried regularly.

The Danish government gives the greatest aid to the dairy industry in various ways, mostly through favorable legislation.

The discussion of the paper brought out the fact that women milkers in Denmark, who do nothing else, receive \$40 or \$50 a year and board; ordinary male helpers about \$75 a year and board, and superintendents of creameries are paid according to a graduated scale, which increases the compensation for first-class butter and offers the greatest incentive to improve the quality of the product. Danish butter sells for 25 to 28 cents in the London market.

"The Progress of Oleo Legislation in Kansas" was the title of a lengthy paper by A. E. Jones, of Oakland Jersey dairy, Topeka.

Mr. Jones made out a strong case against what he was pleased to term the oleo fraud. After reciting something as to the discovery of the process of making oleo, he stated that all the States in the Union except ten, of which Kansas is one, have laws governing the manufacture and sale of sham butter. Kansas is practically the only State with any claims to dairying as one of its industries that attempts no regulation.

Several States tried at first to prohibit the manufacture of oleo, but this was declared unconstitutional, since which various laws have been passed for the purpose of checking fraud in connection with the sale. Some States require that the butter shall be colored pink, while others prohibit any coloring.

Mr. Jones made the assertion that oleo is very deleterious as food, and stated that so far as he knew there are very few persons who will knowingly consume it, sales being limited to the grocer who sells oleo for butter and to the hotels and restaurants which serve it in place of butter. Mr. Jones said: "No one objects to its being sold for what it is, or to any customer using it if he so desires. The success of the manufacturer depends entirely upon the fact that his goods reach the con-

DE LAVAL CREAM SEPARATORS

Address, for catalogue and particulars, Or THE DE LAVAL SEPARATOR CO., ELGIN, ILL. 74 Cortlandt Street, New York.

sumer as and for butter. If oleo has so much merit, why not introduce it in its own natural color? Then if people want it they will know it when they see it. The color of butter was preempted by the cow more than 6,000 years ago, and no one has the right to make and sell an article in such close resemblance to it that the consumer can not tell one from the other.

"The dairy interest does not need nor ask for protection against any legitimate article that is offered in its own color or form, but this interest does ask for protection against counterfeits, and they will have that protection. If they can not get it from their present representatives they will see in the future that such men are sent to Congress and to the State Legislature as will protect their interests against fraud.

"Prohibiting the manufacture of oleomargarine is out of the question. The only thing to do is to follow the example set by other States in framing a law that forbids its being made in imitation or semblance of butter. The coloring of butter deceives no one and injures no one. No one complains of it. With oleo the necessary result and intent of coloring it, as at present, is to deceive and injure consumers, as well as the makers of genuine butter. In addition to a bill regulating the manufacture and sale of oleo, it may be found necessary in order to protect the public health in other directions to pass a law against the sale of impure, unwholesome and adulterated milk. In order to enforce any laws of this nature it will be absolutely necessary for the appointment or election of a Dairy Commissioner."

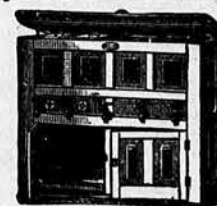
Mr. J. L. Hoffman read a very interesting paper on "Private vs. Co-operative Creameries." Mr. Hoffman maintained that, as a general thing, co-operative creameries have not proven a success in Kansas, although he said he was unable to assign any good reason why they should not be. The discussion brought out the fact that there are numerous successful co-operative creameries in the State. E. G. Burnham, of Minneapolis, has been running a system of creameries in Ottawa and Clay counties on the co-operative system, and has found it highly satisfactory. A number of other creamerymen testified to the satisfactoriness of the co-operative system.

To the question, "Have the Low Prices for the Past Season Been Due to the Universal Law of Supply and Demand?" Mr. J. K. Forney, of the Belle Springs Creamery Co., of Abilene, answered yes, and gave his reasons for the answer. He advocated holding the excessive supply of butter in May and June in cold storage until the lessened production in subsequent months shall have raised prices.

Mrs. Bina A. Otis made an extended address in which she urged the members of the association to admit their wives to membership and not restrict it to the men alone. By doing this, Mrs. Otis believes there would many advantages accrue to the society and to the work it has in hand on account of the co-operation of the wives of the men who are engaged in the dairy business, adding their influence and opinions to the judgment and efforts of the men.

Three "River Brethren," from Dickinson county, were in attendance at the meeting. In accordance with the custom of their sect they wear their coats closely buttoned around their throats, full beards and long hair, parted in the middle and combed straight back.

Interesting circulars sent to farmers. Send name to Bureau of Immigration, Spokane, Wash.



MOSELEY'S OCCIDENT CREAMERY.
SOLD ON MERIT.
Send for Special Introductory Offer.
FREIGHT PAID BY US.
MOSELEY & PRITCHARD
Manufacturing Co.,
Clinton, Iowa.

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.

"Only a Cold."

"It was only a cold," said grandmother Smith, as she sat wringing her hands at the bedside of little Jimmie, who opened his eyes for the first time on this beautiful world only four days before, and she spoke truly when she said it was only a cold at the start, and that start was only four days before, within the first hour of the little sufferer's life on earth.

The next morning it was said that Jimmie did not sleep well the first night, but seemed to be troubled with a cough, a very queer thing for a new baby.

So he went on into his coffin, and Grandmother Smith wound up as she began, in repeating the story to the grannies, "it was only a cold."

"It is only a cold, and the young one has had it many and many a time before, just like that," said Mrs. Jones, of Rossville, as two-year-old Julia woke up suddenly one night and began to struggle for breath, springing up in bed and clutching at her throat and grasping at some invisible thing over or about her head.

in the trundlebed; the little eyes grew wider and wider; the little arms grew more furious and frantic; the crowing became more strident and striking; the little chest rose and fell rapidly and vehemently; the child said by its actions, "Take me up! take me up! Oh! give me more air! more air!"

"It's only a cold," said George Washington, as his good wife chided him for going out that last morning while he was so hoarse; "it's only a cold," said he, "and I'll wear it off by night."

But only a few sons rose to peer over the well-kept estate until it saw crape on the door and a great procession in black moving towards the dome that rose above the forest-skirted Potomac, and the whole country was clad in black and crape hung everywhere.

"Only a cold," but Dr. Oliver Wendell Holmes took it and in a few hours was gathered to his fathers.

"Only a cold," but it inaugurates every case of catarrh, every bronchitis, every pneumonia that afflicts mankind.

"Only a cold," but it starts more than half of all the funeral trains in the world and makes the doctor and the undertaker rich if they ever have that distinction.

"Only a cold," but it takes more children from cradle, fireside and school than all the other foes of childhood combined.

STATE OF OHIO, CITY OF TOLEDO, ss. LUGA'S COUNTY. FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & CO., doing business in the City of Toledo, County and State aforesaid and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of HALL'S CATARRH CURE.

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the Breeder's Gazette, of Chicago, price \$2 a year.

WHAT YOU DON'T KNOW ABOUT

California

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

A Visit to Southwest Missouri.

(Continued from page 5.)

vidual. Three others came from the well-known herd of R. Scott Fisher, of Holden, Mo. One of them is by Buckeye Boy 7198 S., and out of Maggie 22403 S. Another one by Domino 10050 S., and out of Mollie Belle 18872 S., Mr. Fisher's great show ring prize-winner.

Space and time forbid a longer chat about the herd at this time, unless it be to state that about fifty head of the youngsters of this year's farrow have gone to new masters at very satisfactory prices.

HASELTINE'S RED POLLED HERD.

Those interested in the English Red Polled breed of cattle, commonly called Red Polls, will to some extent be interested in a brief review of a day's visit by the writer at the home quarters of the Haseltine herd, at Dorchester, Green county, a station on the "Frisco Road," which is one mile from Nichols, where the "Memphis Route" crosses the former road, three miles west of the city of Springfield.

The 125 registered cattle are kept here on this farm, and the 200 high-grades, ranging from three-fourths to fifteen-sixteenths, range on the 2,000-acre farm forty miles south of Dorchester, in Taney county.

On tracing up his pedigree, that he is a combination of two strong blood lines—a Davy on his sire's side and a Slasher on his maternal line. Close up in his company is the aged fellow Imp Charles Martel 809, that was dropped October 18, 1883, bred by J. Colman, of England; sire King Charles 329; dam Rosa 1133.

Among the youngsters that come in for a special letting are Jumbo 21st, by Jumbo and out of Aurora 5203, that won fourth at the World's Fair. Close up in his company are two tippy sons of Charles Martel 809—Charles Martel 6th, out of Sprite 2d 2993, and Charles Martel 7th, out of Poppet 10th 4288.

both beef and milk qualities, and deep reds in color. All calves sired by a Red Polled bull are absolutely without horns, and 90 per cent. sired by a half-blood have no horns.

Mid-Continental Poultry Show.

EDITOR KANSAS FARMER:—The officers having in charge the Mid-Continental poultry show, to be held at Kansas City, Mo., December 18 to 20, inclusive, are meeting with great success, and every indication points to a large attendance and the finest display of fowls ever seen in the West.

The committee has arranged for special days during the show. There is to be a Missouri day, Iowa day, Kansas day and Nebraska day, and on these days it is the purpose of the management to have some distinguished citizen of those States present to make an address in the afternoon and to be the guest of honor of the association.

In connection with the poultry show there will be a pet stock show, which has been placed in the hands of Mrs. Patti Moore, and she is working hard to make this department as interesting as possible.

The interest in raising fine poultry is rapidly increasing, and this display of fine fowls will have a tendency to increase this interest, develop the industry and awaken the people to the benefits of the business.

NEW 68 PAGE CATALOGUE AND GUIDE to Poultry Raisers for 1895. Contains over 180 fine illustrations showing a photo of the largest henery in the west. Gives best plans for poultry houses, wire remedies and recipes for all diseases, also valuable information on the kitchen and flower garden sent for only 10 cents.

SHOEMAKER'S POULTRY ALMANAC. Contains 80 pages; over 70 illustrations in color. Sure remedies and recipes for all known diseases in poultry; also valuable hints on poultry raising. Full information and prices on all leading varieties. Finest descriptive Poultry Book ever issued. Sent postpaid for 10 cents to any address. C. C. SHOEMAKER, Freeport, Ill., U.S.A.

WANTED AGENTS in every town and county to sell the "Eminent" coffee, g. cookies, Sektin & Co., Wholesale Grocers, 20-22 State St., Chicago, Ill.

5-Choice Cruickshank Bulls—5. We have or sale five choice Cruickshank bulls, 10 to 18 months old, suitable to use in any Short-horn herd. Prices low, quality good. Inquire of W. A. HARRIS & SON, Lincoln, Kas.

CANCER. Cured with the "Eminent Columbian Ointment." Thousands of testimonials from people cured. Address Dr. Castle & Co., Sole Props., S. E. Cor. 8th & Wyandotte Sts., KANSAS CITY, MO.

FOR 1895 The Disc Harrows and Corn Planters made by THE KEYSTONE MFG. CO., STERLING, ILL. will be unequalled. Send for description, mentioning this paper.

Cures ST. JACOBS OIL Cures. Rheumatism, Neuralgia, Sclatosa, Lumbago, Sprains, Bruises, Burns, Wounds, Swellings, Soreness, Headache, Backache, All Aches, Stiffness, Cuts, Hurts, Frost-bites. ...WHAT MORE IS NEEDED THAN A PERFECT CURE....

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals...

LUMPY-JAW.—A thrifty two-year-old steer has a hard lump on one side of the lower jaw...

Answer.—You did not continue the treatment long enough to do any good. The treatment recommended in the KANSAS FARMER was to give a daily dose...

BULL AILING.—I have a four-year-old Galloway bull that I bought in Kansas City, Mo. As long as I kept him in the stable he gained in flesh...

Answer.—It is possible that your bull has tuberculosis, but this can only be determined by an examination, in person, by a competent veterinarian...

GEO. W. CAMPBELL. A. B. HUNT. J. W. ADAMS.

Campbell, Hunt & Adams, LIVE Stock Salesmen.

Stock Yards, Kansas City, Mo.

Rooms 33 to 36, Live Stock Exchange.

CANCER Tumors and Feroval cured with-out knife, plaster, caustic or poison. Send 2 cents for certificates of cure...

Horse Owners! Try GOMBAULT'S Caustic Balsam. The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action...

MARKET REPORTS.

Kansas City Live Stock. KANSAS CITY, Dec. 10.—Cattle—Receipts since Saturday, 6,221: calves, 65; shipped Saturday, 2,233; calves, 160. The steer market was dull and weak to 20c lower...

Chicago Live Stock. CHICAGO, Dec. 10.—Hogs—Receipts, 44,077; official Saturday, 15,893; shipments Saturday, 2,564; left over, about 9,000: quality fair; market moderately active...

Chicago Grain and Provisions.

Table with columns: Dec. 10, Open'd, High'st, Low'st, Closing. Rows include Wheat, Corn, Oats, Pork, Lard, and Ribs.

Kansas City Grain.

KANSAS CITY, Dec. 10.—There were the usual light offerings of wheat to-day and the demand was sufficient to take all the samples at Saturday's prices...

2 mixed corn, 16 cars 45c, 20 cars 41c; No. 3 mixed, nominally 41c; No. 4 mixed, nominally 40c; No. 2 white, 10 cars 42c; No. 3 white, nominally 42c under No. 2 white...

Kansas City Produce.

KANSAS CITY, Dec. 10.—Eggs—Receipts light, market fairly active; strictly fresh, 19c; limed eggs unsalable. Butter—Receipts large, the market is very dull and weak...

THE STRAY LIST.

FOR WEEK ENDING NOV. 28, 1894. Cherokee county—P. M. Humphrey, clerk. HORSE—Taken up by M. J. Aims, in Lowell tp., one dark bay horse, fifteen hands high, black mane and tail...

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...

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.

The Greatest Horse Market in America, the Dexter Park Horse Exchange. N. THAYER, JOHN B. SHERMAN, GEO. T. WILLIAMS, J. C. DENISON, JAS. H. ASHBY, D. G. GRAY.

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...

Table with columns: Cattle and calves, Hogs, Sheep, Horses and mules, Cars. Rows include Official Receipts, 1893 and Sold to feeders.

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

The Apiary.

REARING QUEENS.

An Important Question Answered by a Well-Known Apiarist.

I have decided that every colony that is intended to be run for comb honey next year must contain a queen of this year's rearing. I desire good queens, that my stock may not deteriorate. In view of the foregoing, what plan can I follow in order to produce the best results for a series of years? The above question was asked G. M. Doolittle, and he answered as follows through Gleanings in Bee Culture:

I cannot conceive what line of argument could have been used to bring the questioner to a decision that he would not allow a queen over a year old in his apiary, which was to be run for comb honey, and cannot help thinking that, when his experience accumulates, he will find that his decision is not well founded; for queens which are in their second year do fully as good work as younger ones, where the colony is worked for comb honey, and often are equally good the third and fourth year. Besides, I find, as a rule, that the bees will supersede their own queens as soon as they begin to fail to any appreciable extent; and when the bees undertake this work it is done much more satisfactorily, all things considered, than it was when the apiarist attempts to say: "This shall be," or "This shall not be."

But if you think you must have your own way you can rear pretty good queens in this way: Kill the old queen and let each colony rear one from her brood. In five days from the time you killed the old queen, open the hives and look for queen-cells. In doing this it is well to shake the bees off the combs so that the cell can be easily discovered. If any are found capped at this time they should be destroyed, as they will contain larvae that are too old to make good queens.

AROUND THE APIARY.

Go SLOW in adopting new hives, or making any other radical changes, unless there is a good reason for so doing.

HAVE good roofs. A leaky roof is not only injurious to the bees, but spoils the looks of the sections of honey.

HAVE the hives painted in light colors. Dark colors often cause trouble by melting the comb because it is too warm.

MAKE a place near the apiary where the bees can get water. Put in a handful of salt occasionally. The bees will like it.

KEEP a close watch, and as fast as the hives become crowded put in the sections, adding more as fast as they are needed.

ARRANGE the apiary in straight rows. Do not allow a lot of empty hives and other traps to be scattered around. It looks bad, if nothing worse.

As the season gets late do not put in too many empty section boxes, as a lot of partly-filled section boxes are objectionable at the end of the season.

It is a good plan now to watch all hives that have cast swarms. They should be examined, and if they have not a laying queen one should be provided.

WHEN the fall honey begins to come in is the time to give more room if needed, and it will nearly always be filled. But it should be remembered that bees must have good honey for winter.

THE best way to keep honey from candying is to seal it in tight jars, the same as fruit. This is the way that the bees do, and is the only safe way. It should be thoroughly heated before putting up.

It is when a colony gets weakened so much that it cannot cover and protect its combs that robbers and moth worms do the most damage. Keeping the colonies strong is the best remedy.

Every farmer who desires to improve financially and in his vocation from this time on is cordially invited to subscribe for the old reliable KANSAS FARMER, a medium which will help do it.

The Youth's Companion For 1895.

Famous People

Dickens.

Charles Dickens, son of the author of "David Copperfield," will give interesting reminiscences of his father.

Bismarck.

Sidney Whitman, who has frequently visited him, will write entertainingly of the great Statesman's boyhood.

Emperor William.

A close at hand view of the old emperor, by Mrs. S. B. Stuart, who has met him and other celebrities.

Tennyson.

Theodore Watts, a personal friend, will tell of the poet laureate as he appeared among children.

Queen Victoria.

Qualified by intimate acquaintance with the royal household, Lady Jeune will describe the Queen as a mother.

Mrs. Browning.

Her girlhood and early home life pictured by Mrs. Andrew Crosse, who has made a close study of the subject.

This Series of Sketches is but one of next year's Features. They have been written expressly for THE COMPANION and will appear in no other publication.

Contributors for 1895.

- | | | |
|-------------------|--------------------|------------------|
| J. M. Barrie, | Wm. E. Gladstone, | Mark Twain, |
| J. T. Trowbridge, | W. Clark Russell, | C. A. Stephens, |
| Sir Edwin Arnold, | Frank R. Stockton, | Rudyard Kipling. |

FREE New Subscribers who send \$1.75 at once will receive The Companion Free to January 1, 1895, and for a full year from that date. This Special Offer includes the Thanksgiving, Christmas and New Year's Double Numbers.

THE YOUTH'S COMPANION, Boston, Mass.

POTATO MACHINERY

We manufacture the celebrated Aspinwall Potato Planter, Aspinwall Potato Cutter, Aspinwall Paris Green Sprinkler, etc. Every machine warranted. These machines greatly reduce the cost of raising potatoes. Send for Free Illustrated Catalogue. ASPINWALL MANUFACTURING CO., 40 Sabin St., Jackson, Mich.

WILL YOU distribute Circulars and samples for us? No commission. Salary and expense to travel. Send stamp. ADVERTISERS BUREAU, 447 6th Ave., NEW YORK CITY.

TRUSSES on 30 Days Trial. Easy, durable and cheap. A radical cure effected. Send for sealed catalogue. EGGLESTON TRUSS CO., Masonic Temple, Chicago, Ill.

SMOKE YOUR MEAT WITH KRAUSERS LIQUID EXTRACT OF SMOKE. SEND FOR CIRCULAR. E. KRAUSER & BRO. MILTON, PA.

5/A HORSE BLANKETS ARE THE STRONGEST. Made in 250 Styles. For either road or stable use. All shapes, sizes and qualities. WM. AYRES & SONS, PHILADA.

GEARHART'S FAMILY KNITTER. Knits a stocking heel and toe in ten minutes. Knits everything required in the household from homespun or factory wool or cotton yarns. Most practical knitter on the market. A child can operate it. **STRONG, DURABLE, SIMPLE, RAPID.** Satisfaction guaranteed. Agents wanted. For particulars and sample work, address, J. E. GEARHART, Clearfield, Pa.

FITS CURED

(From U. S. Journal of Medicine.) Prof. W.H. Pecke, who makes a specialty of Epilepsy, has without doubt treated and cured more cases than any living Physician; his success is astonishing. We have heard of cases of 20 years' standing cured by him. He publishes a valuable work on this disease which he sends with a large bottle of his absolute cure, free to any sufferer who may send their P. O. and Express address. We advise anyone wishing a cure to address, Prof. W. H. PEEKE, F. D., 4 Cedar St., New York.

In writing to our advertisers please say you saw their advertisement in the KANSAS FARMER.

Harper's Magazine IN 1895.

The Simpletons, a new novel by THOMAS HARDY, will be begun in December Number, 1894, and continue to November, 1895. Whoever may be one's favorite among English novelists, it will be conceded by all critics that THOMAS HARDY stands foremost as a master artist in fiction, and the Simpletons may be expected to arouse enthusiasm not inferior in degree to that which has marked Trilby—the most successful story of the year. Another leading feature will be the Personal Recollections of Joan of Arc, by the Marquis DE CONTE, Her Page and Secretary, under which guise the most popular of living American magazine writers will present the story of the Maid of Orleans. In the January number will appear a profusely illustrated paper on Charleston and the Carolinas, the first of a series of Southern Papers. Northern Africa is attracting more attention than at any other time since it was the seat of empire. The next volume of HARPER'S MAGAZINE will contain four illustrated articles on this region, and three of them will depict the present life there. JULIAN RALPH will prepare for the MAGAZINE a series of eight stories, depicting typical phases of Chinese Life and Manners. Besides the long stories, there will begin in the January number the first chapters of a Three-Part Novelle, by RICHARD HARDING DAVIS—the longest work yet attempted by this writer. Complete short stories by popular writers will continue to be a feature of the MAGAZINE.

Send for Illustrated Prospectus.

The Volumes of the MAGAZINE begin with the Numbers for June and December of each year. When no time is mentioned, subscriptions will begin with the Number current at the time of receipt of Order. Cloth Cases, for binding, 50 cents each—by mail, postpaid. Title-page and Index sent on application. Remittances should be made by Post-office Money Order or Draft, to avoid chance of loss.

Newspapers are not to copy this advertisement without Express order of Harper & Brothers.

HARPER'S PERIODICALS.

- Harper's Magazine, one year, \$4 00
- Harper's Weekly, " 4 00
- Harper's Bazar, " 4 00
- Harper's Young People, " 2 00

Postage Free to all subscribers in the United States, Canada and Mexico.

Address HARPER & BROTHERS, P. O. Box 959, N. Y. City.

200 EGG INCUBATOR ONLY \$10.00

F. M. CURYEA, Box 151, Lincoln, Neb.

INCUBATORS & BROODERS Brooders only \$5. Best & Cheapest for raising chicks. 40 1st Premiums 4000 Testimonials. Send for Cat'lg. G. S. SINGER, Box Z Cardington, O.

GUARANTEED

absolutely self-regulating and to hatch 90 per cent. of the fertile eggs. Self-regulating Brooders. Most perfect machines, best material and workmanship. Prices reasonable. Send for large illus. catalogue, testimonials, etc. High Class Poultry & Eggs. Full stock Poultry Supplies. Fearless Incubator & Brooder Co., Quincy, Ill.

IT BEATS THEM ALL! THE IMPROVED

Kansas Economy Hot Water Incubator received first premium at the Kansas State fair at Wichita in 1894. It has hatched 95 per cent. in new hands this season. It is taking the lead everywhere. Prices to suit the times. Illustrated catalogue of incubators, brooders, cook tables and ironing board sent free to any address. JACOB YOST, Lock Box 196, Arkansas City, Kas.

THE IMPROVED VICTOR INCUBATOR

Hatches Chickens by Steam. Absolutely self-regulating. The simplest, most reliable, and cheapest first-class Hatcher in the market. Circulars free. 4 cents. GEO. ERTEL & CO., Quincy, Ill.

POOR TEA is high in any price. One pound of "Sample Tea" mailed for 40 cts. Free Illustrated Price List of Family Supplies. **CHOICE TEA** is a King. JACOBY BROS., 206 N. 2d St., St. Louis, Mo.

FREE IT COSTS YOU NOTHING FREE

A Bonus Offer. No Risk. No Such Opportunity has ever before been offered. No Deception. We mean just what we say. This machine is yours free. Warranted 10 Years. 75,000 In Use. **FREE OXFORD MFG. CO.** S. M. DEPT. F611, CHICAGO, ILL. FREE

THE BIG 3 Household Furniture \$10.60

Sold direct from the factory at only 10 per cent. above COST. We ship everything on approval, satisfaction guaranteed or money refunded. We save you the enormous profit of jobbers, wholesale and retail dealers. The Big Three! Combination, consisting of BED, DRESSER AND COMMODE only \$10.60. Retail at \$30.00. Hardwood, finely finished. Will last a life-time. Thousands sold. CUT THIS OUT and write to-day for description and illustrations of our large furniture assortment. Address: OXFORD MFG. Co., Furniture Dept. T. 539 939 TO 344 WABASH AVE., CHICAGO, ILLS.

Christmas Presents Free!

A chance for every one to obtain a beautiful and useful present, FREE! Write to Texas Farm and Ranch, Dallas, Tex., for big premium list and sample copy of the best 20-page weekly Farm, Family and Stock paper published in the South. \$1 per year; 50 cents pays for 6 months.

PAYS ARTISTICALLY ARRANGED AGRICULTURAL ADVERTISING ALWAYS ATTRACTS ATTENTION

TO KNOW MORE ABOUT IT—Rates, Estimates, etc. write FRANK B. WHITE CO., SPECIAL AGRICULTURAL ADVERTISING, 91 Times Building, New York

CHRISTMAS FOR THE CHILDREN

Parents, Brothers, Sisters and Friends of THE LITTLE ONES, You could not make them a Christmas Present that would capture and delight their little hearts like the luminous BOX OF BROWNIES, consisting of 12 rubber stamps, size of accompanying illustrations, representing the well known "Brownies" in their comical attitudes of Policeman,



Dude, Chinaman, Clown, Animals, etc., with Ink Pad and Bottle of Colored Ink, and Paper Tablet for stamping the amusing figures on, all enclosed in a neat box and mailed postpaid for only 25 cents. Every purchaser who will tell us what State this little cut suggests will receive in addition to the Box of Brownies a 3 months' subscription to the popular juvenile monthly, "Wayside Gleanings," which is a veritable treasure-trove of useful information and fascinating stories for the little folks. Address, CONN. NOVELTY CO., E9, New Haven, Conn.

DOUBLE BREECH-LOADER \$5.00.
RIFLES \$1.75.
WATCHES

GUNS

BIYOCLES \$10
 All kinds cheaper than elsewhere. Before you buy send stamp for 60 page catalogue.

POWELL & CLEMENT CO.
 160 Main St., Cincinnati, O.

LIGHTNING WELL MACHINERY Works.
 Largest of tools. Fortune for the driller by using our Adamantine process; can take a core. Perfected Economical Artesian Pumping Rig to work by Steam, Air, etc. Let us help you. **THE AMERICAN WELL WORKS,** Aurora, Ill.; Chicago, Ill.; Dallas, Tex.

Well Machinery Wind Mills, Pumps, etc.

We manufacture the celebrated **FEET-SEL WELL AUGER AND ROCK DRILL** and the **LIGHTNING HYDRAULIC DRILLING MACHINE.** The latest improved and fastest driller on record. Riggs, Tool Rigs, Jetters. Also first-class Well Tools of every description.

WRITE FOR PRICES. CATALOGUES FREE.
 Address **Tetzcl & Liebenorfer,** Ottawa, Ill.

J.I.C. DRIVING STILL LEADS THEM ALL.
BIT IT WILL CONTROL THE MOST VICIOUS HORSE.
 75,000 sold in 1891.
 100,000 sold in 1892.
THEY ARE KING.
 Sample mailed X C for \$1.00 Nickel, \$1.50.
 Stallion Bits 50 cts. extra.
RACINE MALLEABLE IRON CO., RACINE, WIS.
 J. P. Davies, Mar.

HAVE YOU HEARD
 How cheap you can buy the **KAW FEEL MILL.** If not, write for price. It will astonish you. The "Kaw" grinds corn and cob, shelled corn and a kind of small grain. Especially adapted for hard and soft wheat.

AGENTS WANTED
 Address **CURRIE WINDMILL CO.,** Manhattan, Kas.

BANNER Root Cutter
 Cuts everything in roots and vegetables for stock. Only Root Cutter with a self-feeding device. Send for circulars and price.

D. E. THOMPSON & SONS,
 23 RIVER ST. YPSILANTI, MICH.

THE OLD RELIABLE PEERLESS FEED GRINDERS
 Grinds more grain to any degree of fineness than any other mill. Grinds ear-corn, oats, etc., fine enough for any purpose. Warranted not to choke. We warrant the Peerless to be **THE BEST AND CHEAPEST MILL ON EARTH.** Write us at once for prices and agency. There is money in this mill. Made only by the **JOLIET STROWBRIDGE CO., JOLIET, ILL.** Jobbers and Manufacturers of Farm Machinery, Carriages, Wagons, Windmills, Bicycles, Harness, etc. Prices lowest. Quality best.

BELLE CITY FEED AND ENSILAGE CUTTER.
 The most perfect Cutter made. We have hand and power Feed Cutters in all sizes and at all prices. A full line of Tread and Sweep Powers, Hand and Barrel Carts, Root Cutters, Saw Frames, Harrows, Cultivators, etc. Send for Catalogue at once. Silo and Ensilage Treatise free if you mention this paper.

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(Continued from page 1.)

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