Pirst Regular Course of Instruction Symptoms and Treatment of Various Given In America.

Ills Briefly Explained.

Ames, In.-The state highway com mission will conduct the first good roads school of instruction in America at the state college at Ames this year, beginning June 12 and ending June 17

A regular course of instruction will e given in the fundamental and essential features of road building and maintenance, with special reference to Iowa conditions. A syllabus of the work and condensed treatise on good roads construction and maintenance is being prepared for the use of those who attend, and in addition lectures on the different phases of the work will be given by expert road builders from different parts of Iowa and else

In addition regular instruction will be given in the use of road surveying instruments and in the preparation of road maps and profiles and of plans for road improvement. Particular attention will be given to the proper methods of road drainage of both surface and ground water. In this work those attending will be organized in small parties, each under charge of an instructor, to take actual work in the

A special feature of the work will be an extensive exhibit of modern road machinery, with demonstration of its use, by men from different places in the state whom the highway commission men have found to be expert in the use of the different road machines. Some short sections of road of different kinds will be built.

Another special feature of the school will be instruction in the design and building of cement culverts. Detailed standard plans for culverts of different sizes will be furnished by the commission, with full instructions for building them, and to illustrate the work some actual culverts will be built and tested

during the school.

The officers of the Good Roads asso ciation have decided to hold their annual meeting at the college on Thursday and Friday, June 15 and 16, so that those attending can have the bene fits of the good roads school. An inter-eating programme for this meeting is being arranged and will include ad dresses by such well known good roads men as Senator Harper and others.

The state highway commission very strongly urges all road officers of the state, including county supervisors, township trustees and township road superintendents, to attend this school.

NATURE STUDY.

Earthworms and Legume Rootlets Mellow the Soil.

The burrowing habits of the earthworm and the penetrating character of the roots of legumes exhibit a beautiful harmony of method and a striking example of effective co-operation be tween two ameliorating agents. An effort was made by a scientist to trace the roots of halry vetch to their lowest

extremities.

The soil was a tough sample of yellowish clay. It was astonishing to observe how in this hard clay vetch rootlets were found traveling downward the burrows or tunnels of earthworms, occasionally throwing out laterals at a depth of fully four feet below the surface. It was curious also to note that when a small and stringy



rootlet found its way into a worm burrow it suddenly developed and became clothed with a great mass of root hairs, a miniature Illustration of the action of the tree root which effects an entrance into the tile drain. It may be that avullable plant food is found in comparative abundance on the somewhat slimy walls of the tunnel. difficult to estimate the benefit to the physical properties of the soft of this co-operation between plant and animal. Certainly porosity and humus are much increased.

IN THE GARDEN

Sow the little mud radishes in the hotbed to be harvested from the same Sow eggplant in the hotbed and transplant when two fnches high. Give the best of care to insure continuous and thrifty growth, without which egg plant will prove most unsatisfactory.

Put the pea seed in deep in good the legs and breast work to do that mellow soil, covering lightly at first and gradually filling in the soil. Cold does not retard the peas. Sow early.

POULTRY DISEASES.

Ills Briefly Explained. When the excrement secreted by the kidneys, which is normally pure white, ars yellow, though the dropp are solld and the bird appears perfectly healthy, look out for bowel trouble.

When the crop is hard and unyielding there is danger of the bird becom

When the discharges are streaked with blood it is time to give preventives

When the points are hot and swollen and the fowl is disincilned to stand, rheumatism has taken hold.

When the nostrils are clogged with dirt and the eyes water, ward off a pos-sible case of roup by timely treatment. If the case is bad apply the hatchet

and bury the cureass.
When the bird seems lame and has a small swelling on its foot remove to a house with no perches and oblige it to roost on a bed of straw. Bumble foot is easily cured in the early stages if the cause is at once removed.

When a hen seems to droop down behind and goes repeatedly to the nest without laying she is usually suffering from a disorder of the oviduct and

might as well be killed and eaten.

When a bird is "going light," has good appetite, but passes food from the bowels undigested, it is the early stage of consumption, and treatment is use

When the hen seems glddy and turns round and round she is probably suffering from apoplexy.

When the bird has leg weakness, with no disorder of the liver, feed lighter and give plenty of bone forming ma-

When new fowls are bought quaran tine them until sure they have no dis-When a fowl has difficulty in breath

ing look out for pneumonia. When a fowl is dangerously sick with an organic disease it is worse than useless as a breeder. It is usually safer to kill a bad case of illness than to try to cure it.—Farmer's Gazette,

Light Brahms Prize Winner.* F. I. Sewell, the noted poultry artist, writing in Reliable Poultry Journal, says: "Mr. H. N. Rollins of Massachu setts, for years famous for the size hown in his giant strain of Light Brahmas, has of late years pleased the



LIGHT BRAHMA PULLED.

Brahma loving public by the beautiful lacing of backles and tail coverts exhibited on his birds, which have as well presented some of the truest mod-els of Brahma type, of which the accompanying portrait is an example This pullet won first prize at the late Boston show, with special \$100 challenge trophy cup for best female and specials for best shaped female; also for best tall coverts, the latter beautiful finish being given special attention of late by the leading Brahma fan-

Leg Weakness.

patent mixtures or any other supposed bone producer or stimulant will prevent leg weakness, says the Feather. The latter never appears in broods that have natural range and intelligent care, but is only found among chickens artificially raised and kept in hot, dry brooders and on dry floors. The oil in the legs dies out, which is the cause of the trouble, although heavy feeding plays an important part in the matter. If chickens found suffering with leg weakness are removed from the hot, dry surroundings and placed a few days on Mother Earth it astonishing how quick they recover the use of their limbs. This treatment beats to keg of rusty nails and at the same time teaches us to observe nature a little closer and not meddle too much with drugs, tonics and theories.

Caudition Powder Por Powls. The following formula is recommended by one of the leading authorities on the subject: Powdered mustard seed. 10 onnees; powdered fenugreek, 8 ounces; powdered sulphate of soda, 2 ounces; capalcum, 1 ounce; table salt, 1 unce; ginger, 1 ounce; binck untimony, powdered, 1 ounce; fine ground bone, 1 ounce; carameal, 10 ounces. Reduce to a fine powder and thoroughly mix. Mix a tablespoonful with each quart of much food. Give two or three times a week.-Reliable Poultry Journal

The Best Table Fowl. The breast and thighs must be beavy in a good table fowl in proportion to the rest of the body. In order to have thick breast meat and big thighs these muscles must be used by the fowl, is the way Furthers' Voice reasons. In other words, the filer and scratcher Prune the blackberry and burn up other words, the filer and scratcher the brush thus destroying all diseased will prove to be the best table fowt, for

VALUE OF SEPARATORS.

Setting Milk In Shallow Pans Is Wasteful Practice.

The old fashioned way of setting milk in the ordinary six quart shallow pans has nothing to commend it except the cheapness of the outfit, says American Cultivator. The pass take up a great deal of room in the datry and make a great deal of work in washing, although the new pairs pressed out of one piece of theware are not so hard to wash as the old ones that were made out or four or five places and had a seam around the bottom and

two or three up the sides.

Leaving out of consideration the arge amount of room that forty or fifty pans take up in a datry, which is a big item on many farms. other strong objections in that pans other strong objections in that pairs last but a few years, they cause lots of mess from spilling and leaking, and the milk sours and thickens before the cream has time to rise. This last point is the greatest objection, and a very serious one, to the use of shallow pans to dairles of half a dozen cows or more Just how much butter fat or cream is lost in the milk the average furmer does not know. He thinks that it is only a little and that it does not

amount to much But really it amounts to a good deal and may be the whole of the profit. The following experience shows the less through setting milk in open pans: A herd of fourteen cows was in milk and giving about 250 pounds of milk a day. The pans were set in a cool oom and allowed to stand for thirty six to forty-eight hours. The skim milk was tested, and it showed that nearly all the cream rose in the first twelve hours, no difference being shown between that set twelve hours and that set thirty-six hours. But the amount of butter fat which was lost was something appalling, amount ing as it dld to eight-tenths of 1 per cent, or about one-sixth of the whole amount of the butter in the milk. This loss is not surprising to one who has opportunity to make such tests, and it is going on every day on hundreds of farms in this country. In this case it amounted to two pounds of butter per day, and nearly all of this could have been saved by the use of a separator.

After all has been said concerning treatment of caked or inflamed udders I doubt if any single application will be more effective than gentle rubbing and working with the hands, not for a few minutes, but for a half hour at a time, writes H. E. Cook in National Stock-man. Turpentine and lard, hot water, vaseline all are good. But just test the effectiveness of each with and without

Causes of Abortion. Dr. H. M. Reynolds of the Minnesota

The Wisconsin station, after studying the milk production for over four years, came to the conclusion that the

The Silo and Silade

We have filled silos with crimson clo ver and with winter oats and clover grown together in May for many years. using cutter, writes a Delaware correspondent of Rural New Yorker. We have usually filled two small siloe; began using one of them as soon as filled. For a few days this top of allo, heating and unfinished as sllage, is not the best feed, but as soon as we get down where it is properly fermented it is all right and better than solling.

Uses For Old Silos. We have noticed that old silos and silos out of commission are very well adapted and, in fact, used for the stor age of shredded corn fodder, says In-land Farmer. It will not only keep very well, but large quantities can be stored in small space. Another use for an old sile is to cut the winter supply of sheaf oats and clover hay into it This puts the feed in the best possible condition and most convenient form for feeding it out.

Stinge on Dairy Ford I have depended largely on silage for roughage for dairy stock for fifteen years, writes L. P. Bailey of Ohio in National Stockman. I think my experience teaches that forty pounds of silage is equal to fifteen pounds of best clover hay, counting roughage only, but with silage corn planted as we do in apart drilled in the row one stalk to fifteen inches, we get fairly good ears if the season is favorable. This very much enriches the silage, so that dairy cows fed forty pounds of such sllage will not require more than half as much grain as those fed on clover hay. I feel confident that cows so sliage fed with four pounds of grain to balance will keep in better condition and give more milk than those fed afteen

A LECTURE

Eugene Guard

Engene Guard

Electricity commenced its career at the breaking morn of creation, with few passengers on board, and has continued its course with increasing speed and growing glory down to the present moment. It now travels with the brilliancy and rapidity of the lightning's blaze, and even compels the very lightnings to speak in a familiar voice to man. The charlot of science is destined to continue its majestic course, in duration coevel with our globe. Genius is supremely higher than talents, and no man of genius has ever opposed electricity in its wonderful workings. This shows that as it was considered unworthy of doing all that is claimed for it that it would fall by the wayside and be discarded the same as all worthless things that are cast aside. Dr. Darrin, at the Hotel Smeede, is an advanted thinker on the applications of electricity for the cure of disease and to prove his skill we enumerate many cures performed by him, and would suggest to the thinking minds that today cures are being performed by this subtle agency that seemed impossible ten years ago.

Among the many successfully treated may be mentioned Ex-Sena-

Among the many successfully treated may be mentioned Ex-Senator Geo. Chandler's son, of Baker City, who had heart trouble and general debility; cured and gained 30

F. H. Hohn, 247 Commercial street, Salem, catarrh; cured. J. W. Pate, Jefferson, Ore., rheuma-tism and diabetes; cured. Reuben Lee and wife, Turner, Ore., scarter records and cough; re-

Mrs. C. Pfeng, Salem, varicose ul-ers on both limbs; cured. B. Baxter, Ferry street Salem. umor, cured. Miss Irene Ashford, Salem, dis-

charging ear; cured.
J. S. Hesten, Salem. liver com-

plaint and dyspepsla; cured.

Mrs. Beulah Ross, of Salem, is very enthuslastic over her recovered health. She was cured by Dr. Darrin last summer, her affliction being chronic dyspepsia, liver and kidney troubles thought to be incurable.

DR. DARRIN'S PLACE OF BUSINESS Dr. Darrin is located at the Hotel Smeade, Eugene, Ore., and will give free examination to all, 10 to 5 or 7 to 3 daily until July 1. The poor free and those able to pay at the rate of \$5 a week or in that proportion of time the case may require. All cur-able chronic diseases of men and women a specialty.

This is the first visit of the head of the Portland firm of Drs. Darrin to

Old papers for sale at the Leader office 15 cents per hundred.

The Original

Dr. H. M. Reynolds of the Minnesota experiment station has collected a great deal of information on the causes of abortion. He divides the general causes of abortion into the following groups: Bacterial infection, objectional feeding stuffs or material in drinking water, poor physical condition of the animals and injuries.

Size of Dairy Cows. contains no oplates and is safest for children and delicate persons. For sale by Benson's Pharmacy

years, came to the conclusion that the larger type of cows is better suited to average farm conditions than the smaller type, or what is known as the smaller type, or what is known as the extreme dairy type.

Wagonmaking, blacksmitting and general repair work at J. II. Baker's shop. Every guarantee of good workmanship given.

If in a kind of billious mood, You wish an aid to digest food, No other pill is half so good As DeWitt's Little Early Risers. The famous Little Pills EARLY RIS-The average height of silos is increasing. There is a decreasing tendency among silo builders to build into put all of the silo above ground. With the blower cutter to fill the silo height is only a matter of additional sections of pipe, while with a carrier cutter every additional foot is additional vexaliton.—Inland Farmer.

Has bett it left is a left in the silo in increase in the famous Little Pills EARLY RISERS cure Constipation, Sick Headache, Billiousness, etc. They never gripe or sicken, but impart early rising energy. Good for either children or adults. Bob Moore, LaFayette, Ind., says: "No use talking, DeWitts Little Early Risers do their work. All other pills I've used gripe and make sick. DeWitt's Little Early Risers do their work. All other pills I've used gripe and make sick. DeWitt's Little Early Risers interest at 5 per cent. per annum payable semi-annually, principal and interest payable in U. S. gold coin. Bids for the purchase of all

"Five Hundred Dollars Reward.".

The Southern Pacific Company will pay Five Hundred Dollars rearrest and conviction of any one of he persons who ma liciously placed ies on track at private road crossing wo miles east of Albany, April 2nd

J. P. O'BRIEN, General Superintendant. Approved, B. A. WORTHINGTON, General Manager,

FOLEY'S KIDNEY CURE akes Kidoeys and Bladder Right

Lewis and Clark Exposition.

During the Lewis and Clark Exosition the Southern Pacific Company will sell round trip tickets to Portland, limit thirty days, at one and one-third fare for the round trip. For organized parties of 100 or more, individual tickets at one fare for the round trip.

Stop-over of ten days will be this section, rows three and a half feet given at Portland on all one-way tickets running through that point during the exposition, Tickets ELY'S CREAM BALM must be deposited with Joint Agent at Portland and charge of fifty cents will be made for the extension of time.

You can't afford to use a poor plow. Oliver Chilled Plows are the right kind. Sold complete or in pounds of clover hay and eight pounds duplicate parts by Wynne Hardware

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Something for Your Eastern Friends.
The 1905 Issue of the publication "Oregon. Washington and Idaho and Their Resources," issued by the Passenger Department of the Oregon Railroad & Navigation Company, is now ready for distribution. If you have friends in the East who are interested in the Pacific Northwest, a copy of this publication would be a welcome visitor to their homes. This publication will be mailed to any given address upon receipt of four cents in stampa to pay postage.

The Leader office is prepared to turn out the very highest class of commercial job printing. We guarantee satisfaction.

THE SALVE THAT PENETRATES DeWitt's Witch Hazel Salve pene. ten days from date of sale. \$4.40. DeWitt's Witch Hazel Salve penetrates the pores of the skin, and by its antiseptic, rubifocient and healing influence it subdues inflammation and cures Boils, Burns, Cuts, Eczenia's Tetter, Ring Worm and all skin diseases. A specific for blind, bleeding, itching and prodruding Piles. The original and genuine Witch Hazel Salve is made by E. C. DeWitt & Co., and sold by The Modern Pharmacy. macy

or any part of said bonds will be received by the City Recorder of said city on or before the 17th day of June, 1905, at the hour of 7:30 p. m. of said day. A certified check ward for information leading to the for \$100 must accompany each and every bid. No bid for less than the par value of said bonds will be considered and the Common Conneil reserves the right to reject any and all bids

J. E. Young, City Recorder.

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It cleanses, soothes, heals, and protects the liseased membrane. It cares Catarrh and frives away a Cold in the Head quickly, Restores the Senses of Taste and Smell centures the Sonkes of Laste and Schell, any to use. Contains no injurious drugs, applied into the nostrils and absorbed, arge Sire, 50 cents at Druggists or by unit; Trial Size, 10 cents by mail. ELY BROTHERS, 56 Warren St., New York

Lewis and Clark Exposition Ticket Rates.

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Cottage Grove to Portland & Ret \$5.90, good for 30 days, but not later than Oct. 31st, 1905.

One fare for the round trip good for ten days, (must travel together on one ticket both ways) \$4.40 DEGANIZED PARTIES OF ONE HUNDRED OR

MORE

One fare for the round trip party moving on same day, but individual tickets will be sold under this rate and can return at any time within

The above tickets on sale daily between May 29th and Oct. 15th, and no stop overs allowed in either di-

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