# DESERET EVENING NEWS TUESDAY DECEMBER 17 1907



Prof. Hogensen Addresses Nature Classes at the University.

MOISTURE AND PLANT FOOD. Air, Good Tilth, Cultivation, and in

The West Mulching Clear. Necessary.

Prof. Hogensen of the Agricultural college gave the second of the series of agricultural domonstrations the classes in nature study yesterday at the state normal. The locture was substantially as follows, and is an objest lesson to both farmers and school teachers

We were spenking in the last lesson of the moisture in the suil. We shall understand the groat importance or moisture when we know that in the produces the order to produce one pound of dry matter it takes from 500 to 750 pounds of water. That is, to secure one ton of dry lucern hay, there nuest he from 500 to 750 tons of water pumped from the soil and passes through the plant.

PLOWING CONCERVES MOIST-URE.

In most of this western country, it is of the utmost importance to conserv-the moisture in the soil. This is done The motivities independent to concern by plowing, which isosens up the soil so that it will hold more water. Plowing should usually be done in the fail, in order that all the molsture that fails during the winter and early spring may be stored up and not allowed to run off. After the mosture has entered the soil, it can be kept there by culti-vating the surface. Surface cultica-tion makes a muleb which prevents the escape of moisture. The muleb, or loose earth, acts as a sort of blanket, which keeps the molsture down by breaking the capillary connection with the soil below. (This was shown on blackboard.) MULCHING EXPERIMENT.

#### MULCHING ENPERIMENT.

An experiment that demonstrates the effect of malches can be made in the schoolroom by taking three large can of flower pote with the boltoms per-forated II all three with the same kind of soil; stand each in a measured quan-tity of water; such day stir the surface or the soil of none not to the derth of tity of water: each day stir the surface of the soli of one pot in the depth of two inches: stir another to a depth of four mehes each day; leave the other unstirred. Then nore the difference in the amount of water that will evapor-ate from the pot in which the soil wat not stirred at all. The soil in this pot will become dry, while that in the oth-ers will remain moist benealth the mulch. mulch.

# SOIL MOISTURE DEMONSTRA-TIONS,

TIONS. To illustrate the rate and height to which water will rise in different kinds of soil, secure three glass tubes about three feet long and about an lach in diameter. Fill one with palverized claiy, one with loars and one with sand. Stand all three in a pan of wa-ter. From time to time note the height which the water has reached in each case. This will show the rapidity with which water will rise in solis-most rapidity for the first 10 inches in the sand, because the water here meets with less obstruction, the sand stains having greater scaces between them than the clay grains have. But the

with less obstruction, the sand grains having greater Staces between them than the clay grains have. But the water will rise furthest in the fine grained soils, because the capil-lary spaces here are ther. Per-form with one of these tubes an ex-periment to illustrate the sorting over of water. Fut a mixture of fine clay, loarn, fine sand, coarse suid humus and fine gravel into one glass tube. Nearly fill the tube with water. Sinke up thoroughly and allow to settle. Heg-ular layers of these different soils will be formed, beginning with the coarses at the bottom and ending with the flaat the bottom and ending with the daest on top.



to resulting from Catarrh and drives a Cold in the Head quickly. Mestores beams of Taste and Smell. Full size ets, at Druggists or by mail. Liquid on Balm for use is atomizers 75 ets. Nuestions of Werren Strapt, New York.

the more water it will lift from deeper and and the further it will it. A multible breaks the fine tubes substituted coarse and irregular and multistitutest courses and inregular many in which the spaces are so large lead the water from the lower soil rises in further. It is held in (conserved) by the mulch. A (hree-inch mulch is ergy effective. On the other hand, rol-ing or compacting the soil surface many the soil to dry out safekly and a threepon often employed when the oil is too wet at the surface specifally ar-the phird factor is soil tertility ar-wording to our outline is sufficient

valling to our outline is sufficient vallable plant food.

PLANTS REQUIRE OXYGEN.

Plants retuine to grow if the roots ar suppling with exygen. The supposed by the sur, and enters to a targoigh the spaces between the 1 granns. If, finen, the soil granns ar-cy close together, as is the case when cy close together, as is the case when 5 is paragreg, the art cannot enter, a line plants will not grow. Oxygen one of the constituents of air, is a aporter of both pant and milmai life, 1 may readily be made in the school-m, by taking about a spoonful of . 02 mangamese dioxid, Mn. 92; and spoonful of KC. 163 as much po-slum enformer and mixing them. Fut anixing into a test tabe and hem slow enforce and mixing them. The container into a test table and hear A gas, which is oxygen, will be med. Oxygen supports combustion, may be shown by dropping a light-match into it. To show, also, that dis require oxygen to germinate, i some water in a bottle and pour over the surface. Into another bot-nat ordbace water, drop some the put ordinary water, drop some wheat kernels into both bottles and note the results. The wheat will ger-

minate in bolied water, because the air has been driven out of the latter.

PLANTS CONSUME CARBON DIOXID.

Plants take oxygen from the air also, France theo by gen from the an along through their bears, in the form of through their bears, in the form of the second the payeen is returned to the air theorem provides the formation in the decomposition of organity mat-In the decomposition of organic mat-lef in the sin. This gas may be insue in the scholaroom by pikened a inti-common some in a guass and pourting approximation action of the scholar gas is formed, which is carbon dioxia, and which slowly take the bottom of wells, whence it is the gas which slowly take the bottom of wells, whence it may be dipped out in barbers, just as water is, it with promet death if the lungs of an am-hat become filed with it. It is not a supporter of combustion, as will be seen by dropping a lighted match into it, by gassing some of this gas into a solution of clear time water, a turnia solution results, owing to the formation of calcium carbonaite, which is in-solution in water. Most of the lime found in solis is in this unsolution form. NITROJEN ESSENTIALS. "Firly Woos Hurd, no. How

NITROGEN ESSENTIAL.

Another of the important plant foods which a jertil son fluxt contain is ourrogen. The various forms of nato-gen are quite science in water, and are incored easily lost from the son. Ni-nogen is used by the plant only when it is combined with oxygen in the pro-partion of one part of introgen to three-of oxygen. When organic matter de-oays in the soil, it is siezed upon by certain bacteria, which leed on por-tions of it and throw off animonia ations of it and throw off animonia as a waste product. In a ferthe soli where onimends has been formed, there are use recent corrang gerns which are able to use the animonia in their file able to use the ammonia in their lite processes, but these in turn throw of nitrous acid as a waste product. An-

dip it itno the paraffin until a layer of paraffin adheres to the soil and wire. Plant six kernels of wheat in each basket and set in a light, warm place. Add sufficient water from time to time to keep up the moisture. That hanket which coinains the best plants orther to keep up the moisture. That hanket which coinains the best plants orther to keep up the moisture. That hanket which coinains the best plants of the neutral of untreased soil used, and which if added to the farm from which this soil was taken, will greatly herease the crop. These baskets have the advantage of allowing the roots of the plants to be distributed evenly inroughout the soil to be tested, so its of the first the case when a cast glass, or kover pot is used. The paraffin and the soil form an impervious layer is that no air space exists, and the roots are not attracted to the aides of the hictosire.

of the Inclusion

## IN JUDGE DIEHL'S COURT. Several Vagrants Sentenced-Wife

### Pleads for Demented Husband. Judge C. B. Diebl of the criterial di-

vision of the city court proposes to do Il in his power to avaiat the city auhoritles in handling vagrants and othundestrable officers. Since the

shooting of Officer Ford many arrests asys been made, practically all of the

have been made, practically all of the suspects being charged with visguancy. The police were able to make a case against several of them who were tried late yesterday offerhood. Those convicted were someneed to a term of 30 days at labor in the city juil, the others were given "fonters" and m-structed to leave town at once. One of the most pathetic of cases before the court in many months was that of Joseph Sadler, charged with petit harceny. He appeared for trial and said he was guilty. Sadler was accused of stealing 10 cents worth of figs.

accused of stealing 10 cents worth of figs. Mrs. Sadler, wife of the accused, was in court and explained to Judge Diehl that, about two years ago, her hus-hand met with a rathroad accident which left him mentally unbalanced and that since that time he has acted in a strange manner and is not respon-sible for his conduct. Mrs. Sadler stated that she had two

Mrs. Sadier stated that she had two children and supported them by taking in washing and going to work. She said her husband was unable to work boyond assisting her slightly about the house. Owing to this state of facts Judge Diehl discharged the man but warned him to let other person's prop-erly alone in the future.

#### MAN AND ALIMONY GONE.

Mrs. J. O Druyer Seeks to Find Trace Of Former Husband.

Of Former Husband. County Clerk J. U. Eldredge has re-ceived from Mrs. J. O. Druyer a letter asking for information in connection with the estate of John R. Druyer or his mother. Her letter is written in crude fashion and is as follows: "Leadville 14 1907. To the Probate Courd of Sault Lake: I wich To make a Inquiery a Bout a Mr. John D. Druyer That went To Soul Lake Latly To a Tent his Moth-ers Funel She Lives on state street he coulds her his sister Bot I Do belve That it is his Mothe: Bot he Dos owe Allmoney for mor Then a leven yeares and I want To find out if I con got Hold of any Propperty or maney I would Like To find out if Thare is a Will IN The Probate Court from Miss Elizabeth Druyer To John R. Druyer Please Let me know when it is meture I Reman ReSpeStul Mrs. J. O. Druyer 123 E 4 st."

# 123 ID 4 st.

PROVIDES FOR CONTESTS. "Should anyone mentioned in my will contest the same, the amount bequeath-ed to him or her shall be forfelted and divided equally between the McKean Ladies' Relief corps and the Kearns' St. Ann's Orphanage, both organizations of Salt Lake City." The forgoing is a paragraph from the will of Mrs. Carrie L. Essinger, filed for probate in the dis-triet court this morning. W. A. Hol-man asks the court in the petition ac-companying the will to appoint him ad-ministrator of the estate. Mrs. Esling-er's estate is valued at \$12,500 in Salt Lake and Laramie, Wyo., property. She died Nov. 29, 1907. She leaves 21 heirs and to her brother she leaves the busi-ners left by her in Wyoming. CARDIFF WINS SUIT. CARDIFF WIRS SOLL. Prof. I. D. Cardiff won his sult against Prof. R. V. Chamberlain in Judge Whituker's court yesterday, Judgment was awarded in favor of Cardiff for \$350. It was set up by Cardiff that Chamberlain wrote to him while he was a professor at Columbia and offered him a position paying a sal-ary of from \$2,000 to \$2,500 per annum. When Cardiff arrived he "und only a position paying \$1,550. he sued for \$429. Both professors are members of the university faculty. the university faculty.

## HOSPITAL FILES ANSWER.

St. Mark's hospital has filed its an-swer to the complaint filed by Jennie Howles Timby and Elmer Knowles Timby, wherein they seek to recover

The contests are made upon similar ground to the ones filed with City Re-corder Moreton at election time. They all cite the same principal as their cause of action. The election of J. D. Murdock, Oliver Hodgson and Ls E. Hall is sought to be declared invalid inasmuch as their names appeared on both Democratic and Republican tick-ets.

#### IN MILLARD COUNTY.

J. Shiles, probation officer for Mil-lard county, has fied with Gov. Cutler his report of conditions in his court for the year. He shows that is cases of juvenile delinquency have been before the court, but that in every case the charge was they the delinquenty see charge was that that in every case the constant of the delinquents were not attending school as provided by the computary attendance law. The fault, according to the officer, lies with the school trustee. school trustees.

#### HINCKLEY ARID FARM CO.

The Hinckley Arid Farm company o Hinckley, Utab, filed articles of incor poration with the secretary of state to day. The company is organized with a capital stork of \$10,50. The core o the company are: Robert E. Robinson, prosident; Johnsthan B. Plait, vice president; Milo Harmon, foreman. Thomas H. Pratt, secretary, and James 8. Blake treasures. s. Blake, treasurer.

#### DAVIS JUVENILE COURT.

Volney C. Gunnell, juvenile judge for Davis county, his filed with Gov. John C. Cuffer his report of the court's work in Davis county for the past year. The report shows that 20 enses of juvenile delinquency were before the court dur-ing the year and that no enses were art ing the year and that no cases warrant-ed detention

CRIMINAL COMPLAINTS.

GREENWOOD COMMITTED.

PROVIDES FOR CONTESTS.

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us ffenses.

by insurance. SUES HOLY CROSS.

The case of Frank Gitzhofen asginst the Holy Cross hospital is on trial for the second time before Judge Ritche, having been remanded for new trial by the supreme court. The case is one in which Gitzhofen seeks judgment for \$25,000 for the loss of an eye while a patient at the hospital, the sisters claiming that the cause lay with the plaintiff. UNIVERSITY NOTES. Dr. Calderwook, secretary of the board of the American Medical Association. yesterday instpected the medical depart-ment of the University of Utah and reported as well pleasd with the conditions here. During his visit to the school he ad-dressed the medical students on the work of the association of which he is secre-

tary. Dr. Sundall, Professor of anatomy of the University of Utah, will leave Thurs-day for Chicago for a visit of two weeks during which time he will deliver a paper before the American Anatomical asy sociation

EAGLES TO OPERATE CAFE.

SMALL BLAZE YESTEPDAY.

Shortly before 7 n'clock

Tonight Miss Hattle Barnett of this place and H. P. Marenthal of Bay City, Mich., will be married, the cere-mony to be performed at 5 o'clock by Rabbi Freund at the home of the bride with Miss Janie Barnett, as bridesmuid and Robert Marenthal best man. A wedding supper will be served after which the bridal couple will leave for the east. GREENWOOD COMMITTED. EIIIs Greenwood was committed to the state mental hospital yesterday. Greenwood is a young Englishman who was picked up on the street several days ago apparently suffering from some serious mental trouble. It was thought that the injection of cocains into his gums during a dental opera-tion was responsible for his condition. County Clerk J. U. Eldredge, Jr., was appointed guardian of his estate. Greenwood has some money in banks and other property which will be look-ed after by his guardian. for the east. A 4 4

Yesterday Mics Margaret Primm en-tertained at a Kensington, her guests being chiefly friends who are to as-sist at her wedding on Thursday night. The rooms were prettily decorated and about a dozen were present.

Mrs. W. D. Donoher entertained the Twentleth Century club yesterday, five tables being played and the prize going to Mrs. T. R. Black,

Mr. and Mrs. W. M. McCrea enter-tained their bridge club last night.

The Lloyd Alliance gives a Ken-sington this afternoon at Unity hall.

Miss Minnle C. Williamson will give a talk this afternoon at the meeting of the Wasatch Literary club, her topic being "Continential Wanderings." Mu-sical selections will also be given, the meeting to take place at Gunton hall.

Mrs. H. L. Charles will entertain a few tables at bridge on Thursday.

The reminiscent session of the Daughters of Utah Pioneers will be held tomorrow in the Lion House par-



Mrs. A. S. Bowers will be hoarses as a large tea tomorrow afternoon.



This six-hole

THAT



The county attorney's office con-tinues to be a place of rush and hurry attending to complaints lodged with the state's prosecutor. Yesterday sev-eral complaints were issued for vari-Mary Smith of Murray is charged with embezzling \$55 from Charles Trip-lett Dec. 13. A complaint was issued against John Doe for the theft of a watch from John Keohane. The rob-ery occurred at the Byron saloon, 525 west Second South street, Dec. 10. Elle LaMike is charged by Charles Pitts with stealing money from Mike Musta Dec. 12. SOCIAL AND PERSONAL

#### DRAINAGE EXPERIMENT.

The drawn of the standing for a weight of the plant stand state in the solid more water to both cans. After the white the standing for a weight of the stand to an of the stand to an standing for a weight of the stand to an standing for a weight of the stand to an standing for a weight of the stand to an standing for a weight of the stand to an standing for a weight of the stand to an standing for a weight of the stand to an standing for a weight of the solid to another. Under certain conditions, we some oped.

SOILS LIFT WATER.

By running over the soil with a harrow, we break up and losseer the first two or three inches of the surface add, we cut off the up-reaching capillary tubes that serve as little pumper through which the moleture comes to the surface and then evaporates into the surface and then evaporates into the surface well known from eritrary observa-tion. Familiar instances are the drick-ing up of water by a sconge, or the fact that a whole lump of sugar will in a short time be moleture if only the low-est partion of it touches water. The rise of the water is due in the attion of a force called capillary altraction.

WHY WATER CLIMDS.

When a clean glass rod is thrust into water, it comes forth wet, some of the water clugs to it. This is because the attractive force of the molecules of the water clugs to it. This is because the attractive force of the molecules of the surface of the glass rod and the film of water that clumes to the rod. But this force is exerted only at very moull dis-

e in ti. Thus if the time is one in in diameter, the water will rise. Its alders only 954 linch shows the iter or enter surface water. If the re is A lack in diameter, the water it rise, 55 meh. If all is to bused renter or outer surface water. If the take is A lach is diameter, the water will rise 55 mehr if 0.1 is the diameter, the rise of the water will be 5.000 inches) when the tube is only .001 of an inch in diamoter, the water will rise in the tube 54.50 inches.

APPLICATION TO SOILS.

other king of germs then attack the mirrous acid, and these throw off as a waste product nitric acid. This acid attacks certain substances in the soli attacks certain substances in the soli and leaves its nitrogen and oxygen as combined with the elements potas-siam, sodium, or with ammonia, that plants can use it. Although a great deal of nitrogen occus in the air, plants have not the power to use it, with the exception of one family of plants, the legumes, which we shall discuss when we come to the study of farm crops.

POTASSIUM AND PHOSPHORUS.

Potassium is another plant food that il solls must contain to be fertile. It is found mostly in the growing part of room at his own request, declares the answer.

known, it must, however, he present in the mod-

A small amount of lime is necessary in the seat. A small amount of lime is necessary in the soil before plants will grow. A peritor is used in the fusues of the plant, but its main action is medicinal, by antralising the injurious acids formed in the soil. Subbur is taken into the plant in combination with oxygen in the pro-portion of one part of subbur to four tarits of avgen. It is one of the con-sultness of the protein compounds in the plant. It is very soldom that any of the plant foods are absent from the soil with the exception of nitrogent, pattas-sium, and physical rules. In studying the resultants of a soil, therefore,

why need to consider only these.

a structive force of the molecules of the water is not so strong as that which is exerced botween the molecules at this surface of the glass red and the film of water that chars to the rod. But this farce is exerted only at vary small diameter, made from wire with a consectivith inch meah. Any with a non-excitable inch meah. Any it is exerted only at vary small diameter, made from wire with a consectivity inches for 5 cents for 5 cent

Timby, wherein they seek to recover \$25,000 for the death of Linus W. Tim-by, charging that by reason of negli-gence and carelessness Timby was per-imited to remain in a fourth story room with an unbarred window at a time when he was delirious with fever, by reason of which he fell from the win-dow and died. The hospital in its an-swer declares that the conditions under which Mr. Timby was a patient relieved them from the responsibility. He had employed his own physician and nurse and was removed to the fourth floor room at his own request, declares the

#### RICHARDS MAKES SHOWING.

J. H. Richards, who has been cited by the district court to show cause why he should not be punished for contempt for refusing to answer cer-tain question put to him before Jus-tice of the Peace Dana T. Smith, touch-ing upon the business dealings of mem-bers of the Pittsburg-Salt Lake Oil company, has answered. He declares that W. M. Wantland, who caused the proceedings to be taken, was seeking that W. M. Wantland, who caused the proceedings to be taken, was seeking to obtain information to which he was not sntitled, and that proper notice and not been given parties concerned in the deposition. The taking of the deposition, or rath-is the attempt miong that line, was a preliminary proceeding in connection with Wantland's suit against the oil company in which he seeks to have service atook transferred to him.

certain stock transferred to him.

#### CAINE HAS COUNTER-CLAIM.

J. E. Caine has filed in the district court an answer to the suit recently brought against him by P. A. Droubay, denying the allegations of Droubay and setting up a counter-claim for \$4,500, claimsd to be due as commission on the sale of property, in which Droubay is charged with fraud.

ECHO OF FUSION.

PROTECTION IS AFFORDED ONLY BY THE

BURGLARY INSURANCE POLICY OF

THE UNITED STATES FIDELITY AND GUARANTY CO.

HOME FIRE BUILDING SALT LAKE CITY, UTAH Phones 500

THE LARGEST BURGLARY INSURANCE COMPANY

HEBER J. GRANI

in the world-The Company that we represent.

Satury

THE BURGLAR MANI He is ALWAYS with us. There is no PROTECTION in locked doors, so-called burglar-proof safes, watchmen, burglar alarms or watch dogs. They are merely PRECAUTIONS. PRECAUTION is expensive but does not afford-PROTEC-

TION.

Rings Dyspepsia Tablets Upon the name principle, the finer the | dold by Z. C. M. i. Drug Depl., 112 4 Mah

A petition was filed in the estate of Mrs. Margery S. Best in the probate di-vision of the district court this morning. The petition asks that E. B. Palmer be appointed administrator of the estate, which is valued at \$700. Besides her husband, E. M. Best, Mrs. Best's heirs are two sisters and a brother,

ESTATE OF MARGERY BEST.

#### COURT NOTES.

Probation Officer Guardello Brown has investigated the case at Sandy where a gaing of 14 boys entered the new school building there and almost totally wrecked the interior. Letters have been writien to the parents of the boys and the court will further inves-tigate the case next week.

tighte the case next week. County Treasurer Groesbeck began yesterday the sale of property upon which taxes for the year have not been paid. But few sales were made and the treasurer's office is giving delinquent taxpayers every opportunity to pay up before selling their property.

This is the season of decay and weak ened vitality; good health is hard to re-tain. If you'd retain yours, fortify your system with Hollister's Rocky Mountain Tea, tha surest way. 35 cents Tea or Tablets. Z. C. M. I. Drug Dept 112-114 South Main Street.

#### CARD OF THANKS.

# We wish to extend our heartfelt thanks to the many friends, the K. of P., the L. O. T. M. and Pythian Sisters for the kindness and sympathy shown during our sad bereavement. Widow Mrs. Robert C. Greaves, mother; Mrs. E. G. Bishop: brothers G. H. Greaves, W. D. Greaves,

# STOP PAYMENTS OF BOUNTIES.

State Auditor J. A. Edwards has sent to all county clerks notice to the effect that no more bounty certificates shall

be drawn against the fund for 1907. This An echo of fusion came to notice action has been taken for the reason Saturday when three election contests that the fund appropriated by the last were filed in the Third district court. legislature, \$20,000 for the two years,

AND COMPANY

