

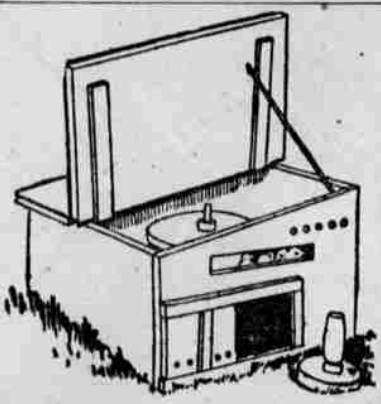
FARM AND GARDEN

Pays to Have an Incubator.

Six years ago we purchased a 100-egg incubator and every season it has been set five or six times and have never had one failure nor one bad hatch. The hatches are always in the nineties with the exception of once when we only got seventy-eight chicks. Our hatches are about the same each time each season through. We nearly always have from ninety-two to ninety-six chicks, seldom lower than ninety-three, more often higher than that, and always such strong, lively chicks, almost never a cripple among them—seldom one in 500. Our incubator has not had the advantage of being kept in a cave or cellar, but we have done so well with it that we have purchased another of 120 and one of 240-egg capacity, as we are going into the business more extensively.

We can truthfully say that the incubator is a great time and labor saver and a money maker. It is one of the best investments any farmer or any one who raises poultry can make. Who would care to go back to the slow way of raising chicks with the sitting hen when it can be done with the incubator so easily and so well? With the hen the season of hatching is soon over with, while with the incubator the early fries for market can be sold when the market prices are best and the early pullets hatched that will be wanted for fall and winter layers. We do not have to wait on the sitting hen to hatch out a few chickens when we have the incubator to hatch them by the dozens.

A good incubator will pay for itself over and over the first season of its use. It is indispensable in the poultry business. To all those who contemplate purchasing I would say, don't get one that is too cheap. Get a good one, even if you do have to pay more.



INCUBATOR AND BROODER.

The good ones are the cheapest in the long run. There are some incubators that have to be watched closely to give results, but these are the thin-walled kind that will not hold even temperature. Our incubator does not get any watching after it is once set going. We leave for an all-day visit any time—even at hatching time—and it takes care of itself.

For the amount invested an incubator will make more money than any machine I know of.—Mrs. L. E. Black.

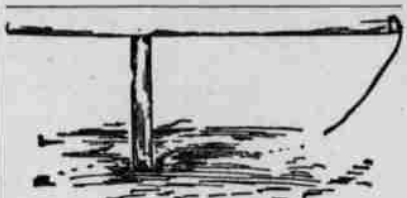
Handling Manure.

It is pertinent also to here refer to the trials conducted by the Cornell Agricultural Station to demonstrate the losses to stable manure when exposed to leaching and weathering. A pile of manure that contained elements worth \$5.48, after being exposed for five months was worth only \$2.03. Leaving manure in piles in the field is an antiquated method that should never be practiced, for the reason that it results in fertilizing the spots where the heaps lie too heavily, giving them fully three times as much of the fertilizing elements as they need, while three times as much ground receives less than it needs, or not enough to make a showing. Where manure is allowed to lie in heaps on a field for a few weeks or a month, it is an impossibility to spread it so as to get an even distribution of organic matter and of the elements of fertility. It is preferable to spread the manure direct from the wagon with a fork, although this is by no means an up-to-date way of handling it. For the most economical results, manure should be hauled direct from the barn as soon as it is made and scattered over the fields by means of a spreader. In this way, and in this way only, can the full value of manure be saved, provided, of course, enough bedding is used in the barn to nicely absorb all the liquid excrement, the plant food of which amounts to nearly one-half of the total in the manure and liquid excrement.

Exercising a Bull.

The accompanying cut furnishes an excellent plan for exercising a bull. A large, strong post is sunk into the ground and securely set. On top of this post is placed an iron plate some-

what similar to that used on the bolster of a sleigh or wagon through which the king bolt passes. A long sweep, evenly balanced, is placed upon the top of this post and pinned by means of a long rod, or, as we might say, king bolt. The sweep is necessarily large at one end and small at the other, which makes it possible to balance with one end comparatively short and the other long. The bull is tied to the rope attached to the further end of the long arm, and in that way can have a large circle to move in. The supporting post should be above the ground high enough to carry the



FOR EXERCISING THE BULL.

sweep above the bull. For a time the bull may attempt to free himself, but if the post and sweep are made properly and securely there will be no danger and he will soon settle down to exercising in a much better manner.

The Value of Tile Draining.

Tile properly placed makes soil dryer in wet weather and more moist in dry weather. This is difficult to understand until we consider the nature of the soil.

Soil in proper condition is porous, something after the manner of a sponge. It will hold water up to a certain point without leaking. Until it becomes thoroughly saturated, it contains air as well as water. Air is warm, and air is needed by plants in the process of growth.

Tile leads the water away quickly in the spring so the air can penetrate the soil and warm it so seeds will germinate and grow quickly. Undrained land, if low, fills with water in the spring to the saturation point and the excess of moisture passes off in vapor through the process of evaporation. It requires a great deal of heat to warm the water sufficiently to cause it to pass off in this way. That heat is lost.

After evaporation has dissipated the moisture and the soil becomes dry enough to work it breaks up in clods, because it has baked down and packed together like mortar. It is almost impossible to prepare a good seed bed in such ground.—Agricultural Epitomist.

Country's Rainfall.

The total rainfall of this country, including snow and that on water areas, was given as 215,000,000,000,000 cubic feet a year. Half or more is evaporated. About one-third flows into the sea. The remaining one-sixth is either consumed or absorbed. Of the 70,000,000,000,000 cubic feet flowing annually into the sea, less than 5 per cent is used for power. It is estimated that 85 to 95 per cent of the volume is wasted in freshets or destructive floods. There are in the United States proper 232 streams navigated for an aggregate of 26,115 miles, and as much more is navigable by improvement.

A Breed Worth Paying For.

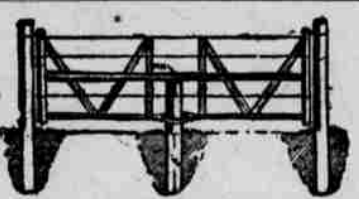
The calf which an English farmer had taken the summer resident to see surveyed his owner and the stranger with a weary eye. "What breed is your calf?" asked the visitor.

The farmer removed a wisp of straw from his mouth and said:

"The cräter's father gored a justice o' the peace, knocked a book canyasser end over end and lifted a tramp over a fence; and, as for his mother, she chased a brass band out o' town last New Year's day. If that ain't breed enough to pay 25 shillings for, you can leave him be. I'm not pressing him on anybody."

A Very Cheap Gate.

A light, useful and durable gate can be made of sassafras poles and barbed wire as shown in the cut. Set a strong



POLE AND WIRE GATE.

post 4 feet in the ground in the middle of the gateway and balance the gate on it. The lower rail is made of two forked sassafras poles securely nailed together so as to work around the post.—W. H. Thompson, in Farm and Home.

Dairy Notes.

Talk over dairy matters with your neighbors.

Never use milk utensils for anything but milk.

Don't abuse the nervous cow. That isn't the way to handle her.

Insist upon pasteurization of the skim milk if you are delivering milk to a creamery.

Germs, it is said, multiply faster in pasteurized milk than in any other kind. Therefore keep the pasteurized milk in a cool place and use it as soon as possible.

SUCCESS OF DES MOINES PLAN; CITY RULED BY A COMMISSION



OWA'S law authorizing the establishment of commission government in cities of 25,000 or more population, which has been very successful in its first year of trial by Des Moines, according to reports from that city, was enacted by the Legislature in the spring of 1907. Applying to eight cities by virtue of the population clause, it was instituted in Des Moines, a city of 75,000 inhabitants, soon after the Supreme Court of Iowa, in February, 1908, upheld its constitutionality without a dissenting opinion, and has become widely known as "the Des Moines plan." In its general features the plan provides for a method of city government that has been tried, with good results, for several years in Houston and Galveston, Tex.

Instead of a mayor and a board of aldermen or councilmen, the "Des Moines plan" makes the governing power of a city a commission consisting of a mayor and four councilmen. Large powers are combined in the commission, which makes the local laws and executes them through a division of authority whereby each member of the commission becomes the head of a department. These departments are as follows: Public affairs, accounts and finances, public safety, including fire and health; parks and public property, public improvements.

The Iowa law may be adopted by any city within the State having sufficient population, which makes it eligible for eight cities. Cedar Rapids has followed the example of Des Moines and has elected to try it. If 10 per cent of the voters of an eligible city petition for the purpose an election must be held to decide whether the city shall adopt the law. A majority of the voters may adopt it or may drop it after trial. Initiative and referendum provisions form an important part of the law. At the demand of 25 per cent of the voters there must be a referendum on any action of the commission, positive or negative, and the decision of the majority of voters at the referendum election is made binding on the mayor and councilmen. All ordinances granting franchises must be submitted to the voters for adoption or rejection. Sessions of the commission must be public.

To judge from the reports from Des Moines, the plan has been especially effective in financial and police matters. For the second year in its history, it is said, the city has lived within its income, having a surplus of about \$20,000, instead of a deficit of \$50,000 or more. The five members of the commission have been paid \$3,000 each, whereas councilmen were formerly paid \$250 each, but it is estimated that business methods of administration have saved more than the \$15,000 total cost of the commission. Every department of the government has been reorganized; sinecures have been abolished, and it is even stated that "there are no more political jobs." Streets have been kept clean, better lighted at less cost, and paving contracts have been carried out in the spirit and the letter of the contract. Each commissioner takes personal pride in his department and feels personal responsibility for it.



Heretofore, says Dr. L. O. Howard, it has been supposed that the gipsy-moth was distributed only by caterpillars carried by moving objects, such as carriages. The moths cannot fly, and the part taken by birds and winds in distributing them or the caterpillars he regards as problematical. Yet recently isolated colonies of these moths have been found in the woods far from roads and paths, and the question arises, How did they get there? Dr. Howard requests information and suggestions on this point.

Recent excavation at the Maumbury Rings Circle, in England, is regarded as corroborating the tradition that a Roman amphitheater once existed on that site. A stratum of quartz, flint and fragments of shells, such as the Romans placed on the surface of the arena where gladiators fought, has been found there. A very interesting fact is that other remains indicate that the place was used by Neolithic people as a flint workshop. It is apparent that they used picks made of deer's antlers to excavate the pit where the flint was found. The pit is 30 feet deep. The place seems to have been almost continuously occupied since Neolithic times.

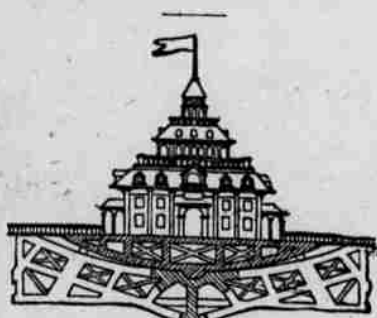
It is known that the Christian era, based on the birth of the Savior, is older by several years than the time assigned in the calendar; but the precise year in which Christ was born has never been finally determined. Lieutenant Colonel G. Mackinlay has recently investigated the question anew, and has stated his conclusion in a book, for which Sir W. M. Ramsay has written a preface. The date on which he fixes for the Nativity is 8 B. C., according to our present chronology. He bases his reasoning on the assumed association of John the Baptist with periodical "bright shinnings" of the planet Venus, the suggestion being that these special apparitions of Venus are the groundwork of the story of the "Star of Bethlehem."

Prof. Todd, the astronomer of Amherst College, who is conducting experiments in South America, ascended a mountain in the Andes to an altitude of 14,000 feet above sea level, and there remained for one hour in a steel tank of 270 cubic feet capacity, filled with air compressed to the same tension that air maintains at an altitude of 1,000 feet. His pulse was reduced from 104 to 91. His breathing and physical condition remained normal. A decompression of the air to its normal tension at 14,000 feet was then made in seventeen minutes. The experiment is looked upon as being important as regards the treatment of diseases affected by various degrees of air pressure. Experiments heretofore conduct-

ed in the Andes to see what effect high altitude had on human life show, says the Boston Transcript, that at 14,000 feet and over the air pressure is so light as to produce incapacity for work, prostration and sometimes death. At the level of the sea the air pressure is approximately 15 pounds to the square inch. At an altitude of 14,000 feet it is approximately 9½ pounds.

Experiments to determine the effects of light on a number of dyed colors were undertaken by Herr T. Frusher, who exposed for a period of forty days samples of a number of colors, with the following results: Of the natural coloring matters, camwood, the fastest of the red woods, and fustic, the fastest of the yellow woods, both fade a little; logwood in pale shades is considerably decolorized, the destruction of color not being so apparent in dark shades; logwood blacks finished with chrome turn greener than unfinished blacks; vat-dyed indigo gives the fastest of all blue colors. Among the artificial coloring matters tested, alizarin blue antracene brown, in pale shades, are only moderately fast, gallocyanin is not quite so fast as alizarin blue; naphthol black, diamond black, anthracene black and other wood substantive azo blacks are much faster to light than logwood black.

A BRILLIANT GERMAN IDEA.



Prof. Eugen Bormel, the Berlin sculptor, suggests that houses in earthquake regions be built of steel and riveted to a rocking steel foundation. This would give the houses an agreeable motion that would make an earthquake a pleasure. If the motion became too violent, probably the furniture could be riveted to the floor and the people lashed to the chairs.

He Did It.

"I refused Jim and he swore he'd do something desperate."

"Goodness! Why, he proposed to me yesterday."

"The dear boy! So he kept his word, after all."—Cleveland Leader.

An Insinuation.

The daughter of her mother was doing a stunt at the piano.

"My daughter's music," said the proud parent, "cost us a lot of money."

"Indeed!" rejoined the visitor. "Did some neighbor sue you?"—Boston Post.

About all the future some people have left is longing for spring when it is winter, and longing for summer when it is spring.

SOMETHING FOR EVERYBODY

Building blocks of glass are in common use in Silesia.

Pigment of more than 400 different colors are secured from coal.

The population of Russia is increasing at the rate of 2,500,000 a year.

Effort to regulate the height of electric "sky signs" of New York has failed.

Cinchona planters are in a bad way in Java. Bark has fallen heavily in value.

There are less than 500 miles of railway in Colombia, and nearly all traveling must be done on horse or mule-back.

In Texas there are fifty-five counties, 35,000,000 acres, without a foot of railway. Most of Texas is over ten miles from a railway, and there are places 100 miles away.

Unter den Linden is the center of Berlin and the hub of the German empire. This magnificent boulevard is 198 feet in width, and under the shade of its lime trees the Berliners have a meeting place which is equal in architectural beauty to any in Europe. It is lined on either side with magnificent hotels, restaurants and palaces.

Seated opposite the late James McNeill Whistler at dinner one evening was a patronizing young lord. During a lull in the conversation he adjusted his monocle and leaned forward toward the artist. "Aw, y' know, Mr. Whistler," he drawled, "I palssed your house this mawning." "Thank you," said Whistler, quietly. "Thank you very much."

Once, when taking breakfast at a hotel in Richmond, John Randolph complained that the eggs were not fresh. "If you want fresh eggs, waiter, always buy them in Chesterfield" (a county just across the James). "How come Chesterfield eggs better'n Henrico eggs, sah?" "Because, you rascal, the Chesterfield people are too poor to keep theirs long."

Many eclipses are noticed in the records of all ages. Astronomers can determine accurately when eclipses must have occurred and the eclipse records are proving valuable to historical students as a means of determining the dates of important events. From these studies P. H. Cowell has found evidence that our year has decreased within historical times.

An economical retainer in which to ship products such as cement, lime and plaster is described in Popular Mechanics. Its halves are separable and can be nested in a compact form for the return journey. The cost of the barrel is about \$1, which is a little more than twice that of a wooden barrel, but they are said to be good for at least fifteen round trips, and the room they occupy when empty cuts down the shipping bill one-half.

There were more paupers in England than ever at the end of January, despite old age pensions, the proportion in London being the highest since 1881, according to the government return just published. The total number of paupers in England and Wales was \$50,460, of whom 288,831 were indoor. The proportion a thousand of population was 24.1, an increase of .5 from last year and of .3 in indoor paupers. The total in London was 133,226, a proportion of 27.8.

A great deal of attention has recently been given to the cultivation of rubber, on account of the continually increasing demand for it. Prof. Francis E. Lloyd points out that "the inevitable struggle of man with nature" has already manifested itself in this new field. Already a considerable number of parasite enemies have been discovered, "whose energies appear to be largely concentrated upon cultivated rubber trees." It is another problem for science to deal with.

In response to a demand that they get together the two leading charitable organizations of Chicago, the Bureau of Charities and the Chicago Relief and Aid Society, have effected an amalgamation of forces and will be known hereafter as the United Charities of Chicago. The main reason for the amalgamation is the raising of more funds. At present the Bureau of Charities disburses about \$80,000 a year and the Relief and Aid Society about \$68,300. It is hoped to raise between \$300,000 and \$400,000 for the combined organizations.

French children are often on their way to school a little after 7 o'clock in the morning. If they have concluded their lessons by 9 o'clock in the evening it is only by dint of great application. Young men studying for the higher professions have appointments with their tutors at 5 o'clock in the morning in summer time; otherwise they cannot accomplish the mountain of work that lies before them. In all branches of art the labor of the tyro is immense. At the Conservatoire the strenuous life is carried to a point which provokes the astonishment even of laborious German students.—Pall Mall Gazette.