

# CORNER FOR THE JUNIORS

## MAKING A START IN SCIENCE

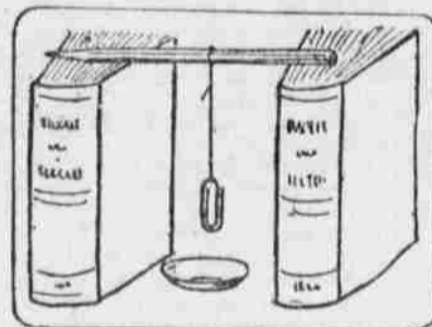
Burned Thread May Be Prepared to Hold Up Some Light Weight—Explanation of Trick.

When we speak of matter we usually mean something that can be seen or felt, anything that has form or weight or color. We say that matter has certain properties. It is a property of glass to be brittle and of rubber to be elastic.

The properties of some kinds of matter can be changed by the application of fire or water or both. We can change iron into steel, we can make brass with a spring to it or without. There are some things that will resist the action of fire or water to a certain extent. You can hold up a pretty good weight at one end of a slice of bread if it is dry or stale, but if you soak the bread in water it will hardly hold itself up.

You can hang a good sized weight at the end of a very slender piece of thread, but the moment you set fire to the thread the weight will fall to the ground. Every one knows that, you will say, but with a little preparation you can convince them that this will not always hold true. It is possible to make a thread hold up a light weight even after the thread has been set on fire and is apparently all burned up.

If you will take a piece of stout thread about a foot long and twist it



Burned Thread Holding Weight.

as much as you can and then double it it will twist upon itself and you will have a double thread, twisted through its entire length. If you tie one end of this thread around a lead pencil and hang some light weight, such as a paper fastener, to the other end so that it shall swing freely above a small dish you may try the experiment of putting a match to it and see how long it will hold up the weight.

But if you stand two books on the table to support the pencil steadily it is possible to burn the thread completely from end to end and still have it hold up the weight provided you have in the thread some substance that is not changed in its properties so much as the thread itself when you burn it.

This substance is common salt, with which so many interesting experiments may be made. Prepare a saturated solution of salt and water, which we call brine, and soak your twisted thread in it. Then hang it up to dry. When it is dry soak it again and let it dry again. After you have done this two or three times the thread will not look any different from ordinary twisted thread, but when you hang your paper fastener or some very light weight to it with the pencil to hold it up it will astonish your friends when you set fire to it.

By applying the match to the bottom you will see a small flame run slowly from there to the top of the thread, where it is tied round the pencil, and at that point it will go out. There will be nothing left but a black cinder which looks very much like a very thin burnt match, but it will be quite strong enough to hold up your little paper fastener.

## PIECE OF ICE MAKES FIRE

Illustration Shows How Lens May Be Formed With Hands and Then Applied to Paper.

It may sound queer to some, but ice can be used to start a fire, and this trick may be accomplished by following the directions given herewith:

Take a piece of very clear ice and melt it down in the hollow of your



Making Fire With Ice.

hands so as to form a large lens. The illustration shows how this is done. With the lens shaped ice used in the same manner as a reading glass to direct the sun's rays on paper or shavings you can start a fire.

## A Cork Dancer.

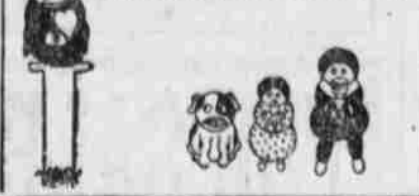
Take one of the largest corks you can find, the kind used in the long necked green bottles, and in one end dig out a hole. Into this put a leaden bullet, or several large shot, and stop up the hole with putty. Round off the edges of the cork at this end, and your dancer is ready to dance.

Around the top of the other end of the cork paste on a little blue hood of tissue paper; make a dress of the same and tie on a sash of ribbon.

On the cork make with ink the prettiest face you can, and then set the young lady a-dancing.

## THE LIGHT-HEARTED ONE.

Yes, you have guessed correctly, and this is a true light-hearted one. For once, he was as happy as a pig in mud. When he was brought to the hospital, he was found to be suffering from a severe case of indigestion. He had eaten a large quantity of food, and he was very full. He was very happy, and he was very healthy. He was very light-hearted, and he was very happy.



## HOW SPOONER QUIT SMOKING

Son of Former Senator From Wisconsin Makes Agreement With Father When Leaving Home.

Ex-Senator John C. Spooner of Wisconsin, who is now a prominent lawyer in New York, is fond of telling how he came to quit smoking. The story has a moral in it which other parents might take to heart and apply in dealing with the faults of their children.

"For thirty years I was an incessant smoker," said the senator, "and had a cigar in my mouth nearly all the time. Cigars soothed my nerves when I worked hard. At least that was my belief. I knew the habit was filling me with nicotine, but it did not seem to affect my health much."

"My son Charles had been graduated from a law school and was preparing to go west and put out his shingle in a new country. He and I sat together one night before the time of his departure, and as we conversed I thought that before he left it would be a good idea to have the boy promise not to drink."

"Do you drink, Charlie?" I said to him, and he responded, "Once in a while. Why?" "I would like you to promise me," I said, "that you will not touch intoxicating liquors. You are going far away to begin your career in a rough country, and I would feel better if you will not drink. We probably won't see much of each other again for a good many years, and it would give me consolation to know that wherever you are you are in no danger of being ruined by drink."

"Coolly looking me over, Charlie said: 'Father, you smoke too much. You are filled with nicotine. I am going away and we will probably not see each other for some time. This smoking is ruining your health. I would like to feel while I am away that your health is not being ruined by this dangerous nicotine habit. I'll tell you what I will do. You quit smoking and I will quit drinking.'"

"My son," said I, "you have touched me in a very weak spot. I take great delight in smoking a good cigar, but if you are gone so am I. We will both quit our bad habits."

The senator says he and his son shook hands on the compact and that both of them have kept their pledges.

## GAME WITH BASEBALL IDEAS

New Amusement Device Arranged on Billiard Table Just Placed on Market—How Played.

A new amusement device, which adapts some baseball ideas to a specially arranged billiard table has just been placed on the market, says the Popular Mechanics. On top of the table, in the relative positions ordinarily occupied by baseball players on a regular diamond, there are miniature figures of players over a series of pockets. The face and sides of these pockets are cushioned and are so designed that the balls enter the pockets quickly.



New Baseball Game.

ly and quietly. On either side of the table and in the rear, there are pockets indicating "singles," "triplets," "home runs," and "fouls." The batter's box is near the front of the table where an average-size billiard ball is placed and then caromed off a triangular rubber home plate which is mounted on a spindle. This plate revolves when hit by the ball, giving the player a constantly changing shot which makes the game very scientific.

## ADVICE EASY TO GIVE.

Don't worry. "Seek peace and pursue it." Be cheerful. "A light heart lives long."

Never despair. "Lost hope is a fatal disease."

Work like a man, but don't be worked to death.

Don't hurry. "Too swift arrives as tardy as too slow."

Sleep and rest abundantly. Sleep is nature's benediction.

Avoid passion and excitement. A moment's passion may be fatal.

Associate with healthy people. Health is contagious as well as disease.

Don't overeat. Don't starve. "Let your moderation be known to all men."

## The Retort Filial.

"Don't call me a kid, pa."

"Well, aren't you a kid?"

"But, pa, a kid is a goat's little boy."

# NOTES FROM MEADOWBROOK FARM

William Pitt

## Keep the garden clean.

Raise the best dairy calves.

The best cows are never cheap.

Get the cows started right for winter.

A bushel of seed corn will plant six to eight acres of land.

A hog cannot sleep comfortably in a draft or wind; he catches cold very easily.

In proportion to his size, a hog needs twice the air space that a cow or horse does.

Frozen alfalfa will kill a hog as quickly as it does a cow or a horse. It is usually indigestible.

A bunch of ripe grapes will hang in a hive of bees until it dries up and the bees will not touch it.

Corn meal, meat and potatoes are three of the most valuable ingredients of the fattening bill of fare.

There is only one way of positively diagnosing hog cholera, and that is by a post-mortem examination.

After pigs are weaned, one of the most common causes of runts is the feeding of a straight corn diet.

There are many troubles of swine that are called hog cholera and yet they have very little resemblance to that disease.

The capons when mature will average to weigh between 5 and 12 pounds, depending, of course, on the variety of fowls caponized.

If a hog misses a feed, watch him; if he misses the second feed, remove him from the herd and thoroughly disinfect where he has been.

Prepare warm, dry, but ventilated quarters for the brood sows, and do it now. Cold storms will be here before we are ready for them.

Breeding stock should never be saved from the litter of a vicious old brood sow, which is always restless and chasing about the pasture.

Composted or well-decayed manures serve their best purpose when applied to the surface of the garden and thoroughly disked into the soil.

Fowls in confinement must have light feed and plenty of grit, oyster shell, and a little bone cut green. A little chopped onion is fine about once a day.

Corn silage is an excellent feed for steers on account of its succulence and palatability, and because of its comparative richness in carbohydrates and fat.

Baby beef is a term applied to steers or heifers from fifteen to twenty-two months of age that show sufficient thickness of flesh and quality to be used as block beef.

Eastern farmers owning rough pasture lands valued at \$15 to \$20 per acre, are stocking them with sheep and the mutton industry in that section is being rapidly revived.

Hogs that are allowed considerable amount of room for exercise, given plenty of water and good sleeping quarters in a well-drained area are not very liable to develop disease.

Besides keeping more and better animals, more attention should be paid by farmers to such crops as restore the fertility of the soil. The chief among these are clover and alfalfa.

Lice are frequent causes of unthriftiness with fall pigs. Whenever nits or lice are seen the pigs should be dipped at ten-day intervals or else given one coating of crude oil applied with a broom.

Oats is one of the best dairy feeds which we have. Bran is also a very good dairy feed. Cottonseed meal is also high in protein. Clover hay, which we can raise directly on our farm, is very good.

No time should be lost in fattening the light shearers and disposing of them to the best advantage. The longer a sheep is kept that will not clip a quantity of clean bright wool above the average the poorer the owner will be.

Some farmers seem to imagine that just because a sheep has a fleece to protect it that shelter from cold and storms is not necessary, but they should know that sheep are more susceptible to cold and dampness than any other animal on the farm.

Fall plowing is cheapest.

A dairy thermometer pays.

No tree excels the Bartlett pear.

Sanitary milk strainers are best.

Neglected fruit trees are worthless.

Dryness is the main requirement in a sheep shed.

There is little likelihood of saving too much seed corn.

You cannot keep the milk pail full unless you feed the cow.

It is often a good plan to turn weanling lambs into the cornfield.

All tender shrubbery in the fruit garden should be given winter protection.

Water cisterns and tanks should be covered and banked before freezing weather.

The milk cows and young stock should be put into their stables every cold night.

All root crops should be harvested and put into winter storage before they freeze.

Seed corn of high productive qualities should not be allowed to freeze at any time.

Keep the salt in a sheltered box in every sheep pasture. Spasmodic salting is very dangerous.

Roots are used to quite an extent in parts of Canada and in England in the fattening of steers.

Begin now to assure next year's harvest—plow deep, save the moisture, scatter the manure.

The capacity of the silo must be judged according to the number of animals which we have in our herd.

Corn, even in the soft dough stage of maturity, when carefully cured, makes excellent strong growing feed.

The big tree is a doubtful shelter for the farm implements, even if the implement dealer says it is all right.

Do not despise well-bred poultry. No territory has ever been noted for its poultry products unless well-bred fowls were the rule.

About the best remedy for "scaly legs," which is the work of miniature parasites, is an application of sulphur and melted lard once a week.

A close study of the breed is not only interesting but profitable. Get acquainted with your fowls and let them get acquainted with you.

The loss incurred from plant diseases is often underestimated by the farmer, passes unrecognized or is regarded as natural and inevitable.

Always keep the very best ewes in the flock for breeding. If you persist in selling the best you will soon sell the flock right out from under you.

Oil meal is laxative and helps to prevent the feverish condition which often appears at farrowing time and which is occasionally responsible for pig eating.

In order to get the greatest profit from the pigs on the farm, it is necessary to encourage them to consume as much of the cheap feeds as possible early in life.

Provide a good open shed for the young turkeys to roost in and don't allow them to wander off. Their value is too great to allow them to take up with the neighbor's flock.

Variety of feed always brings the best results, and if the hens are not doing what they should toward filling the egg basket a change of food will remind them of their duty.

One of the common mistakes beginners make in feeding brood sows is feeding too much corn. Corn is a splendid food for hogs, but it must not be fed in too large quantities to brood sows or pigs.

A good muzzle for a self suckling cow may be made of an old boot top. Silt the top open, rivet it onto the nose piece of a halter and, put it on the cow. The leather will not prevent her eating or drinking.

At the high price of grain the man who has to buy all of his feed must figure very closely and make the most of every pound of it in feeding his poultry else he will come out at the little end of the horn in the spring.

It is not stretching the truth to say that if farmers marketed their poultry in the very best possible condition their receipts would be increased one-third. Neither is it stretching the truth to say that less than 10 per cent of all the poultry marketed is in perfect condition when it reaches the consumer.

A Missouri farmer recently sold a two-year and a three-year-old mule for \$480. Their dam was a large but rather smooth boned mare nine years old, who had been incapacitated for hard work by an accident in a barbed wire fence. She will probably continue to be a good breeder for several years. Some farmers may see a way to a good profit in this story.

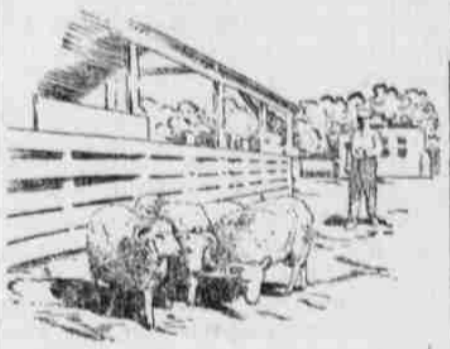
# MOST PROFITABLE SHEEP FOR AVERAGE MAN TO RAISE IS DUAL PURPOSE ANIMAL

Wool Should Not Be Too Coarse or Excessively Fine, but Should Possess Something of Medium Quality—Superior of Mutton and Wool Most Desirable.

(By L. C. REYNOLDS.)

The best time to study the wool producing quality of one's flock is when the animals are sheared. As wool is being removed from the sheep time should be taken to remove a few fibers of the fleece and note its quality. In every flock there is wide variation in the quality of the wool from different individuals, despite the fact that they were sired by the same ram and given practically the same care and feed. The average wool producing sheep of the double-deck type should shear at least twelve pounds of wool of good length and density. The wool should not be excessively fine nor, on the other hand, too coarse, but should possess something of medium quality. I have a number of individuals in my flock that annually shear from twelve to thirteen pounds of wool of the quality that always demands the highest market price. These ewes are on the order of the mutton breed, although they have been bred for a number of years for both wool and mutton production.

I am firmly of the opinion that the most profitable sheep for the average farmer to raise in the future is the animal that will produce a high quality of both wool and mutton. In view



Prize Mutton and Wool Sheep.

of the fact that many of our flocks at the present time have been bred along mutton lines exclusively, I believe flock owners can well afford to give more attention to the wool producing side of their flocks.

For the past few years wool has been commanding a very high and uniform price. The mutton market is well established. To insure the greatest profit from the growing of sheep, either on the farm or range, a superior grade of both wool and mutton must be marketed.

There has been a decided improvement in the sheep producing industry in the past few years along the line above considered, but I am fully aware there is plenty of room for considerable more along the line of combination.

## ATTENTION NEEDED FOR WINTER PIGS

To Raise Two Litters Annually One Must Not Allow Overstocking.

(By G. W. BROWN.)

There is a decided difference in caring for the pigs of autumn farrowing and those of the spring litters. On the average farm the latter have the advantage over the former of coming in previous to the advent of the spring grasses, and have a more generous supply of milk and other laxative foodstuffs to keep them growing and in perfect order.

It has been my practice for a number of years to raise two litters of pigs a year. To do this successfully I find that one must not allow overstocking, but rather should sell off a portion of the pigs soon after weaning time, keeping only so many as he knows he can accommodate with good quarters and generous feeding. One must not slight pigs during cold weather either in housing or feeding.

Besides dry nesting quarters the pigs should have a good-sized lot in which they may get plenty of exercise. Growing pigs should not be crowded into close, filthy quarters, exposed to vermin and disease.

Our winter pigs are very profitably fed upon whole corn in the fodder, as they delight in getting their feed from this material. I find that they eat very much of this fodder, which forms a fine diet. The cobs and the coarse stalks are raked up and burned frequently, affording the pigs a generous supply of charcoal.

I aim to keep a cow for every litter of winter pigs, and with the milk and milkstuffs I can grow a bunch of pigs equal to the spring litters.

## Floors for Hog Houses.

Our experience is that wooden floors in the hog houses will produce rheumatism in the animals just as quickly as cement floors if former are allowed to remain damp and the bedding holds moisture, says a writer in an exchange.

If the cement floors are kept clean and well littered with dry straw or other material frequently, rheumatism will not result.

Better have a hole two feet wide at the top of the pen and a crack two inches wide at the bottom. It is the cold air blowing under the doors and around the pen that causes the greatest discomfort.

ling both the wool and mutton qualities.

An impression prevails in the north of England, says John Wrightson in London Live Stock Journal, that sheep never drink, and in this faith I was brought up. Water was always considered to be an important accessory in cattle pastures, but its absence was never looked upon as an objection to sheep runs. There is a breed known as "crag" sheep in Lancashire, which range over the extensive upland of the mountain limestone, that are said to require no water; but this does not strike a Northumbrian as very remarkable as it fits in with his preconceived notions.

Mr. Primrose McConnell supports this view when he writes that "in his boyhood he had herded sheep and cows together in hot summer weather, and been struck by the cows constantly repairing to the water, while the sheep never went near it, and were never seen to drink at all, although they had access to a running stream close at hand." He adds that a northern shepherd would ridicule the idea of a sheep ever drinking unless it was in bad health. This opinion I can endorse with slight modification, as my idea in the north of England was that sheep were practically independent of water.

That this is also true to a certain extent in the south is shown by the practice of many good shepherds, who do not allow their ewes water during the period of gestation. There are circumstances in which this rule is not adhered to, but they constitute exceptions which may be said to prove the rule.

To speak generally, it is a bad sign when a ewe drinks frequently, and indicates unsoundness in some form. The truth seems to be that as long as herbage is succulent, or is moistened with dew, or from rain from time to time, sheep do not require water.

When ewes are fed on hay they should have water; and when they receive cake and hay together, and are not allowed roots, it is evident that the moisture of the body must be kept on. On the other hand, if they have access to roots they do not require water, and this is one of the best reasons for growing roots on high and dry situations.

Again, the need of ewes which have to support lambs at foot are different to either dry sheep or pregnant ewes. They are called upon to supply a larger quantity of water in their milk, and they must be supplied either directly or through succulent food in order to do so.

## PROPER FEEDS AND CARE FOR THE CALF

Young Animal Must Have Exercise and Freedom of Yard and Farm.

(By J. C. FRY.)

Feeding and raising the calf on skim-milk is not always an easy proposition, but I have had very good success. The calf stays with the mother until the milk is good to use; then it is given whole milk for three weeks; then it is gradually changed to skim-milk. The calf will soon learn to eat alfalfa hay. By putting a little corn chop in the bucket when the calf is through drinking it will soon learn to eat it. Corn will supply the fat that is taken out of the milk. The calf must have exercise and is allowed the freedom of yard and farm. We have the best success with the fall and winter calves. Hay is better for the calf than grass.

## ROOTS ARE FINE FOR PRODUCTION OF MILK

Make Valuable Addition to Rations During the Cold Winter Months.

No matter what some people tell you, turnips and other roots make fine milk-producing feed. Turnips will not affect the flavor of milk if fed at the right time.

If turnips are fed in large quantities, and two or three hours before milking, they are likely to give the milk an unpleasant taste, but if fed directly after milking no flavor whatever will be noticed.

A peck of turnips to each animal per day is sufficient in most cases. A good plan is to feed directly after hay in the early morning, and once a day is often enough.

Roots make a very valuable addition to the winter rations because they add to the variety of the feed and no animal on the farm appreciates variety more than the dairy cow.

Cleanliness and Ventilation. Clean pens, stalls, bedding, etc., and plenty of ventilation are important and without these things hogs are in such weak condition they are likely to take anything.