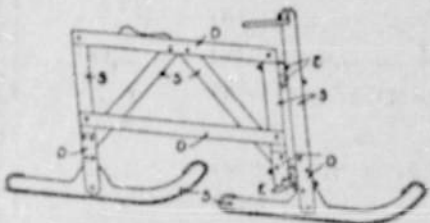


For the LITTLE ONES

NEW TYPE OF COASTER SLED

One Built on Bicycle Principle and is Easy to Make—Constructed of Good Quality of Pine.

The accompanying drawing and sketch illustrate a new type of coasting sled built on the bicycle principle. This coaster is simple and easy to make, says Scientific American. It is constructed of a good quality of pine. The pieces marked S are single, and should be about one by one and one-half inches; the pieces marked D



Has the Lines of a Bicycle.

are double or in duplicate, and should be one-half by one and one-half inches. The runners are shod with iron, and are pivoted to the uprights as shown, double pieces being secured to the uprights to make a fork. The seat is a board, to the under side of which is a block, which drops down between the two top slats and is secured with a pin. A foot rest is provided consisting of a short cross-piece secured to



Coasting.

the front of the frame and resting on the two lower slats. The frame and front fork are hinged together with four short eyebolts E, with a short bolt through each pair as shown.

AMUSING GAME FOR WINTER

Interesting Pastime for Young Folks on Dull, Long Evenings—Prizes May Be Given.

Can you make a picture composed solely of the figure 8? It is an amusing as well as an interesting game for the home, and our artist has shown what can be done in this direction. Many amusing pictures can be thus drawn by the amateur artist. Two competitions might be held, one prize going to the person who draws the



The "8" Figure.

most amusing or interesting picture, using the smallest number of the figure 8, while a competition might also be held for those who use the greatest number of figures in one picture.

Can You Tell?

Twenty tiny sardines
Packed in a tin!
We can get them out,
But how did they get in?

Birds and Snakes for Shoes.

Snakeskin shoes have met with approval, and in mottled gray and mud colorings as well as a dull green have an excellent appearance.

A large measure of approbation is given to the gaiter shoes made of black patent leather and white kid which are deemed immensely smart, and there are the most comfortable boudoir shoes made of knitted silk, and very picturesque brocade "mules" to match brocade rest-gowns, interwoven with gold threads.

There is a fancy for edging slippers with ostrich plumage, and very costly shoes made entirely of tiny feathers have been seen.

Nettle's Explanation.

"Why, Nettle," said the mother of a four-year-old miss, "how did you tear your apron?"

"It got stuck on a nail and jarred itself," explained Nettle.

HORSES AT CHRISTMAS TIME

Animals Should Receive Moderate Exercise and Be Fed According to Work Performed by Them.

(By HUGO KRAUSE, Secretary Anti-Cruelty Society of Chicago.)

Team owners and those who have the care and custody of horses will do well to remember that their animals should receive moderate exercise when their work is suspended for a few days, and should not be fed as heavily as ordinarily at such times.

Every year immediately after the Christmas holidays, scores of horses are seized with paralysis of the hind-quarters, technically called azoturia and commonly but wrongly spoken of as spinal meningitis. This is the direct result of violating the above rule. On the day following a series of holidays anti-cruelty societies are usually overcrowded with efforts to relieve fallen horses, traffic is interfered with, and thousands of dollars are lost to the owners, to say nothing of the suffering that is thoughtlessly inflicted upon the dumb animals.

At such times the ambulance service of the city is not adequate to respond to all the calls that are made upon it, and the longer an animal lies in the street the less are its chances of recovery. Azoturia is caused by heavy feeding and lack of exercise, which brings about a surcharge of haemoglobin in the blood. The nerve centers become affected and paralysis results.

Most troubles of this kind can be prevented easily by a little precaution, but, singularly enough, every year finds a large number of small team owners who go through the bitter experience of losing a valuable animal simply because they or their employees are negligent in this regard. During the present year there will be a number of holidays in succession, and there is added reason for giving this warning note.

In cases where a horse is seized with azoturia, applications of warm material should at once be given to the loins and a dose of aloes or some other mild cathartic given internally while a veterinarian and the ambulance are awaited.

MAKING A GOOD DIRT ROAD

Many "Don'ts" Are Given by Expert on Maintenance of Highways—Make Center the Highest.

Don't fill up the holes and ruts in dirt road with brush, with rocks on top, and a little dirt to cover the rocks; but fill up the hole with dirt of the same character as the balance of the road, writes Joseph Hyde Pratt in the Progressive Farmer.

Don't throw all the refuse from the ditches into the middle of the road, thus softening the surface and destroying the solid, firm bed that you have obtained by previous work; but throw this material out on opposite side of the ditch.

Don't leave the center of the road the lowest point; but make it the highest and give the surface of the road a slope of about one inch in twenty to the side of the ditch.

Don't carry the water across the surface of the road from one to the other; but carry it by means of culverts underneath the road.

Don't have grades on your road over 4 1/2 per cent.; for if you do, it will be necessary to build V-shaped surface ditches or "thank-you-mam"s across the road.

Don't in working out the labor tax on the roads, try to make a holiday out of it; but give an honest day's work on the road. Let us eliminate what is often seen in those sections where the roads are maintained by the labor tax—ten or twelve men and an overseer, a little gray mule, a small plow, six dogs, three or four guns, and a few tools which often are not considered worth using at home.

Don't reject the split-log drag because it is a cheap road machine, but use it constantly, for it is the most efficient road machine that we can use in maintaining a dirt road.

Food for Ducks.

Nothing will make a more savory feed for the little ducks than to take a spade and spade up a small plot of ground in a damp place and allow them to gather the worms and insects that are turned up.

Marshy places along a stream furnish many beetles and shellfish and if the young ducks are allowed a run of a yard like that the cost of feeding them will be greatly reduced.

Ducks can be raised in almost any poultry yard, but in order to make them profitable they will require more care than the chickens, and the breeding is attended with more expense in a yard that is not supplied with running water than where it has such a convenience.

Value of Dense Fleece.

A dense fleece is valuable not alone for the increase in quantity of wool, but for the protection that it affords the animal from the elements and the dust and chaff that flies about in the yards where they are fed.

VARIOUS AGENCIES CONCERNED IN FORMATION OF THE SOIL

Two Things Suggested to Farmer to Prevent Exhaustion of Fertility—First Is to Assist Nature by Means of Good Tillage and Second Is Use of Manure and Fertilizers.

(By ALFRED VIVIAN.)

Vegetation begins with the very simplest forms of plants, such as lichens and mosses, and is, of course, very scanty at first. These plants on dying become a part of the soil, all of the plant nutrients used by them being thus returned.

Food that has once been used by plants is very readily made available to succeeding crops through the process of decay. The soil is now able to produce a larger crop, as it contains the plant food in the previous growth in addition to that added through the agencies detailed above.

In this way the growth gradually becomes more abundant. The plants upon decaying give rise to humus, and this increases the fertility of the land both by being a source of plant food and by increasing the water-retaining power. Humus is a very important factor in fertility. During the decomposition of the plants, acid sub-



Nature's method of increasing the humus and soil fertility. Notice the rotten log and leaves decaying, thus returning plant food to the soil.

stances are formed which act upon the rocks in such a way as to make more of the plant food available.

One of the products of decay or fermentation is carbonic acid gas, and this is dissolved in the soil water, and this gas-containing water is an important help in disintegrating the rocks.

As the nutritive materials increase from these various causes the lower simpler forms of plant life are gradually replaced by those which are more highly organized.

With the advent of plants, like our common crops, which bear roots, other factors in the formation of soils are introduced. The roots secrete an acid substance that has a solvent effect on the mineral matter of the soil, and the roots themselves also assist mechanically in breaking down the rocks.

All are familiar with the tremendous force exerted by plants in breaking apart rocks and stones if once their tender rootlets obtain a foothold in a crevice.

The roots penetrate the soil sometimes to great depths, and, as they decay after the death of the plant, they leave little channels in the soil which serve to carry down water laden with carbonic acid, as well as to introduce the oxygen of the air, that, in its turn, is a factor in bringing about chemical changes in the soil, which assist in making plant food available.

Sooner or later in the process of

soil formation, plants of the pulse family (leguminous plants), such as clover, vetches, lupines, etc., are introduced.

If you dig up some of these plants you will find little nodules or tubercles on their roots. These nodules are the homes of numerous bacteria, which enable the plants to derive part of their food from the nitrogen of the atmosphere.

This peculiar property of leguminous plants is of great importance, for it is undoubtedly nature's principal method of increasing the supply of nitrogen in the ground.

It will readily be understood that the various agencies concerned in the formation of the soil do not act separately nor necessarily in any such order as that in which they have been discussed.

As a matter of fact all the processes described take place simultaneously. The lower plants do not wait for the rocks to be pulverized, for we see such organisms as the lichens growing on rocks from which one would think it impossible to obtain food.

If the lichen is removed, grooves or furrows will be found on the surface of the stone, due to the action of the plant.

Nor are all soils formed directly from the original rocks, for one of the effects of weathering, etc., is to separate such rocks as the granites into simpler substances, with the result, for example, that huge deposits of limestone are formed in one place, and in another whole hills of sandstone.

The soil is almost constantly moving, for some of the same agencies which form soils are continually carrying them away. Running water grinds the rocks, but at the same time transports the fine particles to lower levels. It cuts deep valleys in the surface of the earth and carries away the debris, depositing it at various distances from its source.

This study of the formation of the soil then suggests two things that the farmer can do to prevent the exhaustion of the fertility.

The first is to so treat the soil as to assist and hasten nature in the process of converting the plant food into available forms by means of good tillage.

The second is to return to the soil by means of manure and fertilizers an amount of plant food equivalent to that removed by the crop.

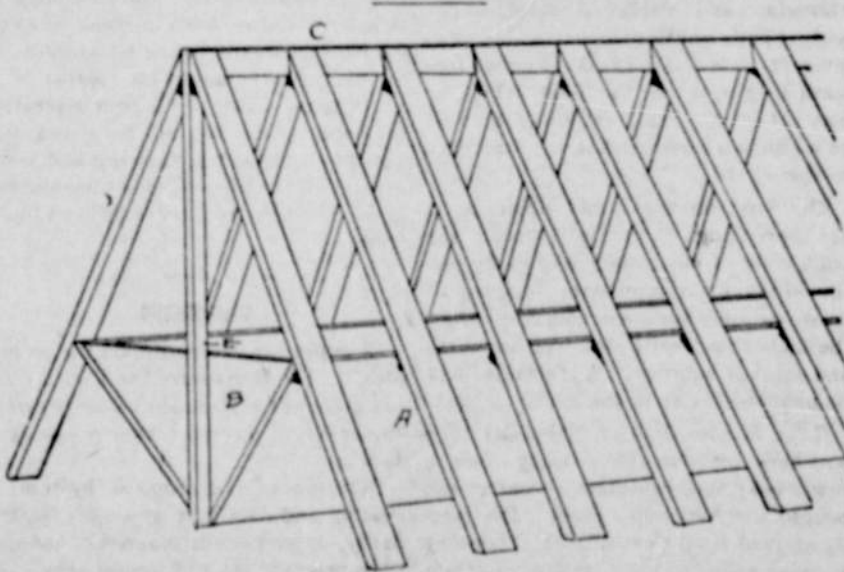
Care of Farrowing Sow.

During the farrowing hour, the sow should be kept quiet and should seldom be approached by any person. She will not need the attention of man and as she is extremely nervous and irritable at this time, all causes of excitement should be removed as far as possible.

Shoats for Killing.

Pick out the very smoothest and most likely shoats for the winter killing, keep them in clean quarters and feed so as to make well balanced meat—not too much fat.

EFFECTIVE PIG TROUGH GUARD



To prevent hogs getting their feet into trough the arrangement shown above is effective. The width of the side boards depend upon the size of the pigs to be fed. A small trough, with six inch side boards, may be used for the small pigs, and 12 to 16 inch stuff for breeding sows. The size of pieces C and D depend upon the weight of the animals and the strain likely to come on the frame. For pigs of ordinary weight, a piece 2 by 4 inches should be used for the ridge pole C and pieces 1 by 2 or 2 by 2 inches

for the guard bars D. These should be securely nailed to the side of the trough in the pig house, spiked to the floor to prevent breaking off. The upright E, firmly spiked to B, secures endwise rigidity. For delivering slop to the trough, a spout or small trough is arranged to enter at the end of the feed trough. With this arrangement, when the distance between the bars has been properly adjusted to the size of the animal, only one can get to the trough between each space, and all sidewise crowding is prevented.

Nevel Dainties.

The kumquats or "little oranges" that come in boxes at the fruit store are a source of wonderment to many persons who have never used them themselves or happened to meet them on others' tables. The way they are served by an uptown chef is this: He covers a plate with endive leaves that have been chilled and then covers the leaves with kumquats that have been sliced very fine and allowed to stand for an hour or two with a covering of sugar and sherry. The salad is dressed with oil and vinegar.

Alligator pears are another mystery to a good many American housewives who have departed from traditional lines. The pears to be delicious should be a little soft, and they should also be very cold. Cut the pears in half, arrange them on individual plates covered with white lettuce leaves and fill each cavity with French dressing. The pears are eaten with a spoon, like a muskmelon.

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