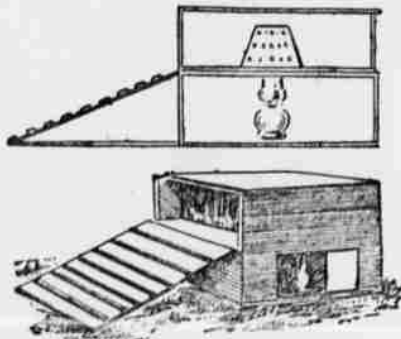




A Home-Made Brooder.

The brooders sold by manufacturers are usually all that are claimed for them, but when one desires to economize, a home-made affair can be constructed by anyone with a little ingenuity which will work nicely. Take two boxes of convenient size, three feet square by fifteen or eighteen inches high is a good size, and set one on top of the other, cutting a hole through each directly in the middle. The hole in the bottom or floor of the upper box is covered

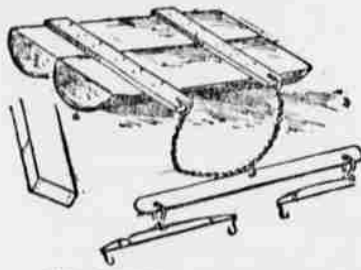


HOME-MADE BROODER.

with an inverted tin pail, or can, which is perforated at intervals of two inches, using a wire nail for the work and punching in. Fit this can snugly over the hole and place the regular brooder lamp underneath it, resting on floor of the lower box. A little door is made in the side of the lower box so that the lamp may be properly attended to. The roof of the upper box is lined with cotton flannel, as are also the sides, except the front, which is left open and across it, three inches from the edge, is nailed a strip (doubled) of cotton flannel, which is cut in strips an inch wide. A walkway is built from the ground to this opening through which the chicks pass. Essential ventilation may be had by boring a few tiny holes in the upper box at a point furthest away from the lamp.—Exchange.

A Profitable Implement.

On soil that is inclined to lump up some implement must be used which will level the soil readily, and at the same time crush the clods. Such an implement can readily be made at home and be quite as effective as those which must be bought for the purpose, if one has a leaning toward manufactured articles. This home-made clod crusher and soil leveler can be made of a log of hard wood by splitting it in half. The log should be about two feet in diameter to work to the best advantage. Lay the two halves of the log side by side with the rounding part down and at either end, about a foot from the end, spike a two-by-four strip, letting them project out sufficiently far at one side so that an iron strip or hoop may be set over the ends, into which to hook the whiffletree chains. This implement can be made at small cost, and unless the logs are too heavy a good team of horses can



CLOD-CRUSHER AND LEVELER.

handle it nicely. The illustration shows the idea clearly and how very simple it is.—Indianapolis News.

Sheep Are Good Fertilizers.

When a flock of sheep is kept on a field the land will be made fertile in a short time, as the sheep not only distribute the manure, but press it into the ground by trampling, the loss being but little. For that reason it has been said that "the foot of the sheep is gold to the land." A flock of sheep, however, cannot add anything to the land other than to prevent waste of materials, which they naturally consume and are, therefore, more valuable when they are fed at a barn at night, the additional food rendering the manure valuable.

German Carp.

A few years ago there was considerable enthusiasm regarding German carp. A pond covering one acre will, it is stated, hold 7,000 carp to growing condition, if they are fed. The carp will eat anything that a hog will consume, even corn, and will gain about three pounds annually until it reaches 12 or 15 pounds. Belonging to the "sucker" family of fishes, the carp has not become popular in this county, and probably never will, as it is not very desirable, compared with other varieties of fish.

Hoed Crops in the Orchard.

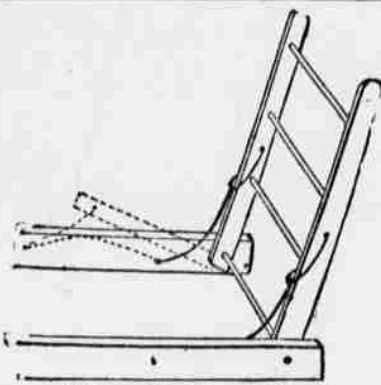
The best orchardists are averse to growing anything in the orchards but the trees even when the latter are young. They argue, and properly, that the growing trees need all the virtue there is in the soil and that if the apple crops in future years are to be of any value they must be provided for during the earlier years of the trees. There are fruit growers, on the other hand, who insist that a hoed crop will be of benefit to the trees, and that this may be considered so under certain conditions and up to certain limits. If the soil in the orchard is kept up to the highest state of fertility so that the trees will not suffer the want of the portion of the fertilizer taken by the hoed crop, then the latter can do no harm, indeed, it will be of value because the soil will receive a certain amount of cultivation which, perhaps would not be given it if it were not for the hoed crop. Work the hoed crop in the orchard cautiously, and watch the effect on the trees.

Caring for Chicks.

When chicks are removed from the incubator to the brooder great care should be taken that they do not become chilled. The floor of the brooder should be covered with fine, clean chaff. Fine sand and clean water should be in the brooder from the beginning. All the fine, dry bread crumbs they will pick up every two hours should constitute the feed for several days, gradually adding rolled oats, hard-boiled eggs, cracked wheat, Johnny cake, millet seed, etc. Milk and water should always be kept in the fountains. When three weeks old make mash of bran, meal, middlings, beef scraps, table refuse, all salted to season and mixed together with skim milk. Alfalfa leaves may also be thrown into the brooder in the place of straw or chaff. The mash in the morning, wheat at noon and cracked corn or kafir corn at night constitute the main feed to keep the chicks growing.

Holder for Hay Rack.

I used a pair of the jointed braces to a commonplace top buggy, writes a correspondent. The illustration explains the position of braces on rack when standard is up and down.



HOLDER FOR THE HAYRACK.

Fasten braces on outside of standard and on inside of bed piece. By taking brace and trying you can soon tell how far back to fasten it.

Shape of Ideal Dairy Cow.

Whether she be a Holstein, a Jersey or whatever she may be, you will find the typical dairy cow with bony head and strong jaw, long between the eyes and nose, with broad muzzle. She should have a bright, protruding eye, which means strong nerve force and action later on. She should have a thin neck and retreating brisket. The lines above and below must not be straight, or she will steal from you. She should be slightly depressed behind the shoulders with a sharp chine—not too straight a backbone. She must have large organs of reproduction and large heart girth, wide between fore legs and sharp on shoulders, which gives large heart action and strong arterial circulation. And last, but by no means least, she must have a good udder, for one-half the value of a cow is in her udder, which should be long from front to rear.

Poultry Pointers.

Never refuse a fair price for a bird that you do not want for breeding purposes. At the same time never sell a good bird that you want yourself.

Do not feed the newly hatched chickens too early; wait at least twenty-four hours. There is sufficient amount of feed in the shell for the chick this length of time.

In feeding fowls always keep in view the fact that the excess of food over and above that required for warmth of body and egg production will be converted into fat.—Journal of Agriculture.

A correspondent of a farm paper, who was not well satisfied with his disk harrow while it had the tongue on it, thus tells how he improved it:

I have been using my disk harrow without a tongue, or rather, I cut the tongue off just ahead of the eveners. I find that this is very much more satisfactory than to use with the tongue; in turning all the horses help turn the harrow instead of the two pole horses having to pry it around by the pole. In addition to this, it takes the weight off of the horses' necks when they stop.

CARL SCHURZ.

Had Gained an Honorable Place Among Our Great Men.

After having lingered between life and death with a complication of diseases for more than a week, Carl Schurz, the famous publicist, editor and statesman, passed away at his home in New York City.

From a poor immigrant, landing in this country when he was 23 years old, Carl Schurz worked his way upward to a position in the foremost ranks of public life. The story of this immigrant boy reads more like a volume of juvenile fiction, with the hero always good and true and struggling for high ideals, than a recital of incidents which make up the career of the great publicist. As statesman, soldier, editor and thinker, Mr. Schurz held the respect of the best element of this country, and many of those who fought side by side with him



CARL SCHURZ.

in the many battles for civic righteousness in which he took a leading part believe it impossible for the country to measure the full value of his services to it.

The life of Schurz was full of adventure and interesting details. He was born at Liplar, near Cologne, Prussia, on March 2, 1829. He was educated at the Gymnasium of Cologne and subsequently at the University of Bonn, which he entered in 1846.

Gottfried Kinkel, poet, philosopher and patriot, who had married Carl Schurz's cousin, was professor of rhetorics in the university. After the revolution of 1848 had broken out Kinkel headed an insurrection, was captured and condemned to imprisonment for twenty years. Schurz was engaged in the defense of Rastadt, a town and fortress in Baden, when it was captured. He hid in a shed for three days and finally escaped through a sewer and made his way to Switzerland and thence to Paris. There, disguised as an organ grinder, he effected the rescue of Kinkel, who accompanied him to England. Schurz supported himself in London for a while, teaching German and writing letters to German newspapers, before he came to the United States in 1852.

When Schurz landed in New York he could neither speak nor write the English language, and the political banners of Pierce and Scott which spanned Broadway were a sore puzzle to him. Yet three years afterward he was admitted to the bar in Jefferson, Wis., and immediately entered the struggle against the aggressions of slavery, for which the Republican party was rapidly organizing. Schurz worked mainly through the Germans of the Northwest, and five years after landing in this country the immigrant boy was nominated for Lieutenant Governor of Wisconsin and came within 200 votes of being elected.

In 1858 Schurz took an active part in the Lincoln-Douglas campaign in Illinois, and it was during this that he formed a friendship with Lincoln which was ended only by the death of the President. In 1859 Schurz went to Boston, where he made an address on True Americanism, which was commented on all over the country. One reading the speech would find it hard to believe that it was written by a man who seven years before could not speak English.

A year after making this address Mr. Schurz was elected chairman of the Republican national convention in Chicago, and supported the nomination of Mr. Seward to the last. After the convention he spoke in various States of the Union, and on the accession of Abraham Lincoln to the presidency Mr. Schurz was appointed minister to Spain. He reached Madrid in July, but after he realized how great a struggle the Civil War was to be he was recalled at his own request. In December he was appointed a brigadier general of volunteers. Mr. Schurz commanded a division of the Eleventh Corps under Howard, fought with Fremont and Sigel, and ended his service under Sherman in North Carolina.

After the war Mr. Schurz was appointed a special commissioner to report on the condition of the seaboard and gulf states, and after that he became a special correspondent of the New York Tribune. In 1866 he became

editor of the Detroit Post and a year later he moved to St. Louis, where he purchased an interest in the Westliche Post, of which he took charge. In 1869 Mr. Schurz was elected United States Senator from Missouri.

He found himself very soon forced to oppose the tendencies developed by the strenuous war period in the party to which he had been warmly devoted, and he threw aside the party yoke by opposing the plans of President Grant. The first open difference came with the submission to the Senate of the treaty for the annexation of Santo Domingo, which he fought with all his energy.

In the Liberal Republican movement he took a prominent part and was chairman of the Cincinnati convention which nominated Horace Greeley. He was actively engaged in the Ohio canvass, supporting the election of Hayes as Governor on a hard money platform, and he also took an active part in the presidential campaign which resulted in the election of Hayes. In 1877 he was appointed to a seat in the cabinet.

It was while Secretary of the Interior that Mr. Schurz put into operation the principles and methods of civil service reform, seven years before their adoption by law.

Although Mr. Schurz held no public office after his retirement from the cabinet his influence in public affairs was felt almost to the end of his life. He was a powerful antagonist of machine politics, and because of his strong following his co-operation in all reform movements was welcomed.

Ministerial Courtesses.

When the Rev. Frank Ritchie of St. Ignace's Church in New York was rector of the Church of the Ascension in Chicago, he was most popular with his bishop because of his extremely high church ritualism and was known as the "black sheep of the diocese." At a general gathering of the clergy, Father Ritchie was paired off with the only colored rector in the bishop's jurisdiction. The clerical wits joked about it.

"The two black sheep of the diocese walked together," remarked one of them. The colored brother, a broad churchman, happened to overhear the remark.

"I should like to know what I have done?" he demanded with rancor.

It was not long afterward that Father Ritchie went to preach in this same colored rector's church, and he was introduced in this manner:

"Father Ritchie will preach this evening. Before the sermon we will sing the hymn beginning: 'My soul, be on thy guard.'—Everybody's Magazine.

DOWAGER EMPRESS MAY LEAVE RUSSIA.

The Dowager Empress of Russia is said to have decided to leave that country forever. A few weeks ago she bought the beautiful palace of Hvi-



DOWAGER EMPRESS OF RUSSIA.

doere, near Copenhagen, and she has now bought another country seat in England. Her sister, Queen Alexandra, of England, it is said, is responsible for this change and the Dowager Empress expects to spend her summers in Denmark with her brother, King Frederick, and her winters in England.

Method.

"No matter what opinion is offered, you express a contrary view," said the impatient friend.

"Well," answered Mr. Bliggins, "that's a way I have of acquiring knowledge. A man is more likely to give up all he knows on a subject if you get him to warm up with a little controversial indignation."—Washington Star.

Good Morning, Judge!

"Who's dat old guy?"
"Dat's me old friend Judge Whelan."
"Yer old friend! I s'pose you an' him's visitin' acquaintances, eh?"
"No, merely speaking acquaintances. I know him well enough to say 'Good mornin' to him every few weeks.'—Cleveland Leader.

Unsettled.

"Don't you think Brown is inclined to dally with the truth?"
"I don't think he ever touches it."—Milwaukee Sentinel.

Pay day comes slowly to a man who watches the clock.



Commenting on Benjamin Franklin's kite experiment, which proved that lightning and electricity are the same, a scientist says: "It was one of the most brilliant examples of luck yet recorded. To attempt the extraction of lightning flashes from a lowering sky was almost suicidal. Even at this late day timid persons occasionally fly to feather beds, sit on glass-legged chairs, or find refuge in rubber boots during thunderstorms. A repetition of Franklin's experiment cost his immediate imitator his life."

Emil Jung, a professor in the University of Geneva, says that snails perceive the odor of many substances, but only when not far away. In order to prove this it is necessary merely to dip a glass rod in a strongly smelling substance and bring it near the large tentacles of a snail in motion. If it is put close to these horns, the tentacles are violently drawn back. As the animal perceives the odor, it changes its course. Snails also smell by means of their skin. Contact is not necessary, for the mere vicinity of a perfume causes an indentation of the skin.

An Englishman who is a large employer of labor has been investigating the arguments of those who say that a workman under modern conditions becomes at an early age valueless. He has kept a record of all accidents that have incapacitated his men for three days and upward. The people engaged in his employment are from 15 to 65 years of age, and he asserts that more accidents occur to men under 30 than to those over 50. He says: "I would much rather trust an exceptionally dangerous job to a man over 50 than to one of 30 years of age."

Amateur entomologists will be interested in a suggestion by Dr. F. E. Lutz for the preservation of all kinds of spiders' webs. The webs should be sprayed from an atomizer with artists' shellac, and then, if they are of the ordinary geometric form, pressed carefully against a glass plate, the supporting strands being at the same time severed. After the shellac has dried, the plates carrying the webs can be stored away in a cabinet. Even dome-shaped webs may be preserved in their original form by spraying them with shellac and then allowing them to dry before removal from their supports. Many spiders' webs are very beautiful, and all are characteristic of the species to which they belong, so that their permanent preservation is very desirable.

Prof. Silvanus P. Thompson, who recently visited the electric plant in Norway, where soil fertilizers are made direct from the atmosphere, describes the apparatus there used as differing from all others in that the flame of electric sparks is caused to move rapidly through the air instead of having the air blown over it. The result is the production of a much greater quantity of nitric acid in a given time. The "flame disk," formed between the electrodes, swiftly expands and contracts, being now only half an inch and now six feet in diameter. To make nitrogen burn with oxygen, electric energy must be pumped in, because, whereas in ordinary combustion, such as occurs when carbon combines with oxygen, heat is given out, the formation of nitric acid is an endothermic reaction; that is to say, heat is absorbed. Prof. Thompson estimates the nitrogen hanging over the city of London alone as considerably greater in quantity than all that is contained in the nitrate beds of Chile.

CHURCH WITH SIXTEEN SIDES.



The curious structure shown in the cut is at Richmond, Vt., and it is one of the most peculiar church edifices in America. It is a sixteen-sided building, planned for union services held by sixteen denominations. It was built as long ago as 1813 on the south side of the Winooski River and is in an excellent state of preservation, having been constructed of hand-hewed timber. The building has not been used for public worship for over thirty years.

Long-Lived Family.

At Bordighera, Mme. Verrando Maria has just died, aged 107 years. She leaves a sister of 105 and a brother of 102 years. Their father was also a centenarian.

There are numerous sure-thing confidence games, but matrimony is the surest.