

# Marvels of Everyday Science

Competent Scientists Apply Their Skill to Problems of Agriculture, Housekeeping, Schools, Business and Governmental Activities.

**G**UNS have been made before this in which the projecting force was centrifugal motion instead of the explosion of powder. One great trouble in such guns has been that the missiles could not be readily fed to the barrel, which was revolving at such high velocity. An invention recently patented in England assumes to overcome this difficulty, according to the Pathfinder.

In this machine there is a hopper for holding the bullets. This hopper has a channel or pipe connecting through the journal or central pivot, as shown in the sectional sketch herewith, so that



a constant supply of bullets may be kept up, even while the disk is in rapid motion. A cam arrangement operates so as to feed the bullets at regular intervals, as desired, and thus the shots may be controlled while the apparatus is running.

With the disk revolving at a stated speed the direction taken by the bullets will be constant. Provision is made of course for shifting and sighting the apparatus so that any target may be brought into range. A number of inventors have been injured by experimenting with centrifugal guns, for the bullets are very apt to go wild, seeing that their destination depends very much on the speed of the revolving disk.

### How to Make a Glass.

With a piece of ordinary twine, any one can convert an old bottle into a serviceable drinking glass. Loop the twine around the bottle at the place desired, as shown in the drawing, and saw for about one minute. Then im-



merse the bottle in cold water and it will break where the twine sawed. Care must be taken to have the twine move along the same line during the operation, and for that reason the bottle should be held in a vise, or a make-shift vise.

### How Snakes Swallow Fish.

A snake, when it attempts to eat a fish, must swallow the latter head first, on account of the fins. If the fish is caught by the tail or crosswise of the body it must first be deftly lifted out of water and turned as disclosed by a remarkable film, made by an English camera man.—Will Day.

### Dust Collectors in Mills.

The use of efficient dust collectors has almost eliminated the dangerous dust explosions and fires formerly so frequent in grain elevators and mills. They have also made conditions more healthful for workmen. A fan forces the dust-laden air directly from the milling machinery to the collector, which consists of a central drum and a number of radiating tubes. Each tube consists of a frame covered with a filtering cloth which allows air to pass freely but removes all dust. A device inside collects the dust and pours it into a conveyor.

### Why Is This Thus?

Here is a paradox to fool your smart friends with. Take an ordinary folding rule (a two-foot rule is best), and ask your friend what will happen if you tie a hammer on the end of the rule, with the hinge on the rule underneath. Of course he will say that the rule will at once fold up, for it will do that even without the hammer being hung on it.

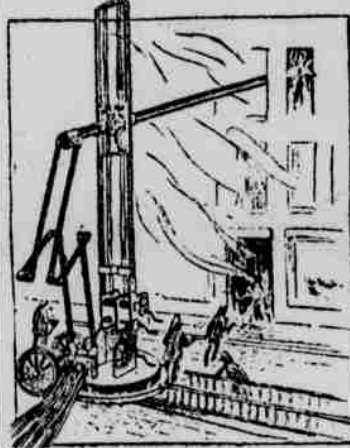
However, it's easy enough to do impossibilities provided you know how, and that is the case in this instance. You tie the hammer in the rule exactly as shown in the picture. You may have to try several times before you will get



it just right. Then when you hold up the rule it will remain stiff and straight and will not fold up, in spite of the weight of the hammer. In fact, it is the hammer which keeps it from folding up, for the weight of it is so placed that it produces a leverage upward on the end of the rule, as you can readily see when you try it.

### Novel Movable Water Tower.

Differing from the usual form of water tower, which throws only one stream of water upon the roof or interior of a burning building, a new type has been invented designed to throw a number of streams of water in various



directions against the flames. The discharge pipe of the new tower is constructed so that it may be projected into a window or other opening, the end being equipped with a number of nozzles presented in different directions. The pipe may be raised or lowered, or tilted at any angle.

### Other Interesting Inventions.

The Whitney brothers of Narka, Kan., have been granted a patent on their road grader, which is operated by a gasoline motor. They had waited two years for the grant.

A clip to hold a lead pencil upon a finger so a writer will not have to lay it down when he wishes to use his hand for some other purpose, has been invented by a Missourian.

The seats on a recently patented sight-seeing automobile are slowly revolved as the vehicle moves, permitting the passengers to see both sides of a street without twisting their necks.

For military purposes there has been invented a rifle with a barrel so strengthened and provided with a plug for the muzzle that it can be used to bore a hole through an embankment, its user being out of sight to a foe.

A pistol which looks like a watch, the barrel being in the stem, has been patented to be used against a highwayman when he demands the surrender of valuables.

At the bottom of a recently patented ladder is an adjustable curved brace, so made that it stands firmly on an uneven surface.

Two novelties to aid gardeners are a hoe with a seed box near the blade with which planting may be done, and a shovel with a second grip part way down the handle.

An Illinois inventor's swimming machine is driven by propellers operated by its user's hands and feet, while his chin attends to the steering.

# Health and Sanitation

### A WORD ABOUT RABIES.

**F**ROM time immemorial the people of all nations, from the barbarians to the most highly civilized, have feared what is commonly known as the mad dog. The terrible results that follow bites from dogs in this condition have justified the fear, for it meant death until the memorable work of Pasteur who gave to the world a treatment which has proven to be a god-sent in arresting the progress of the disease. Men who prepare the anti-rabic virus take the same treatment as those who have been bitten to immunize themselves against accidental infection. The dissection of a dead dog's head is as dangerous to the operator as the handling of a live rattlesnake, with only rubber gloves for protection.

The disease is not infectious in the same sense as some other diseases, but is transmitted only by bites or abrasions of the skin. The specific cause is not known to exist in any place in the economy of nature, and as it is transmitted almost exclusively by carnivorous animals, any measure that will prevent them from biting one another will stamp it out. The recent action taken by the authorities of Portland and Seattle in passing a muzzling ordinance is to be highly commended, for despite the attitude taken by some who are not in a position to know there is, and has been, rabies in Portland and Oregon for some time. It is the duty of everyone to help enforce the ordinance to protect the public. He who loves his child should protect it, and he who loves his dog should protect it also.

**F**RACIOUSNESS and restlessness on the baby's part are frequent results of cutting back teeth, and often screaming during the night. Try the following plan before putting the little one to bed: Get a bath ready with the water deep enough to reach to the child's waist when sitting down. Fasten a shawl or small blanket around the neck to keep the top of the body warm. Neither shawl nor hands should be wet. Keep the baby in the water five minutes. A board may be fixed across the bath at one end to hold a few toys to amuse the child. The temperature of the water should be 104 degrees. The lower part of the little body will be quite red when taken out. Give it a good brisk rubbing and pop the child into a warm bed. It should sleep quietly and soundly till morning.

**F**LIES often fly by alighting on tubercular sputum or any other form of debris and then by depositing their excreta on food stuff transfer disease from one point to another.

Flies' legs are covered with little hairs and on these hairs the germs lodge.

A fly will carry typhoid bacilli, tubercular bacilli, pus germs and various other kinds of bacilli on his feet and then plant them on our food.

### ON MEASLES.

**T**HE one great obstacle in the way of the control of measles is that the disease is communicable in the pre-eruptive stage (just before the "breaking out") before a diagnosis can possibly be made.

It is, therefore, very difficult to handle epidemics with any degree of success, because these children attend school, motion picture gatherings, and spread the disease broadcast before any one can recognize that trouble is brewing.

The best we can do is to isolate the cases when we can get them, prohibit other children in the same house from going to school or other public places, and educate the public that they should isolate all children who present the first symptoms that point in any way to an approaching case of measles.

### THE HOUSEWIFE'S DUTY.

**T**HE DEMAND cleanliness of all persons handling foodstuffs.

To insist upon food being protected from dirt, flies, dust or dogs. To purchase no bread which has been

delivered in dirty bread boxes on the street.

To demand general cleanliness of grocery and meat shops.

To inquire whether poultry is cold storage or not.

To personally investigate the dairy which supplies her with milk.

To be certain to receive full weights and measures.

### SOME HEALTH POINTERS.

The ideal health officer devotes much time to food regulation.

Good food is the basis of life and health.

Well nourished people are better able to resist communicable disease infection.

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