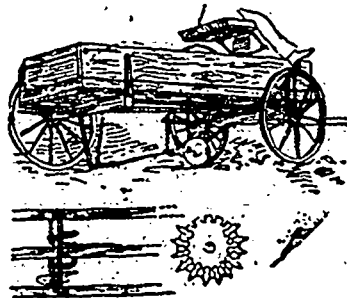


An Improved Wagon Brake.

The brake shown in the illustration does not operate upon the wheel tires, and is designed to effectually stop a vehicle in the middle of the steepest hill. It has been patented by Mr. Nathan A. Wheeler, of Alpowa, Washington. Suspended beneath the wagon body is a friction disk of metal, fixed to an axle which turns in stirrups pivotally attached at their upper ends to cranks projecting from a transverse shaft, which turns in boxes supported by main longitudinal girders, one of the small figures being an inverted plan view showing the manner in which the friction disk is suspended from the wagon body. The stirrups may be attached to the cranks at different points, thus changing the length of the connection between the friction disk and the transverse shaft. The disk and its axle are braced by a bar extending forward to a connection with the lower side of the front axle, but such connection does not interfere with the vertical movement of the disk, which is raised and lowered by a connecting rod and brake lever. The connecting rod is pivotally attached at its rear end to a projecting crank of the transverse shaft, and at its forward end to a crank of the brake lever, which at one end is bent up at the side of the wagon body to be easily reached by the foot of the driver, a spring on the brake lever normally holding the disk out of contact with the ground. Attached to the disk axle is a chain connected to a rearwardly extending brake rod, the brake shoe of which is suspended by rods pivotally attached to the rear axle, a spring normally holding this brake shoe in elevated position. As the driver moves the brake lever forward and downward, pressing his foot down upon the treadle, the friction disk strikes the ground, and the motion of its axle winds the chain to pull the rear brake rod forward, and cause its shoe to swing downwardly to the ground, where it will act as a drag. By increasing the pressure, the friction disk is forced more firmly upon the ground, when the rear brake shoe may be brought forward sufficiently to lift the rear wheels of the wagon. In one of the small

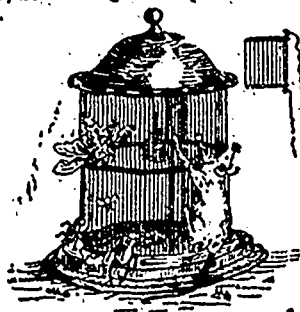
**WHEELER'S WAGON BRAKE.**

views is shown a toothed disk, which may be substituted for the friction disk when the roads are frozen and icy.

An Electric Trap.

Our illustration shows a novel application of the idea of execution by electricity, by means of which it is designed to put a speedy end to rodents and all manner of noxious crawling and flying creatures. This electric trap forms the subject of an American patent recently issued to Mr. F. Scherer, a resident of Paris, France. Any

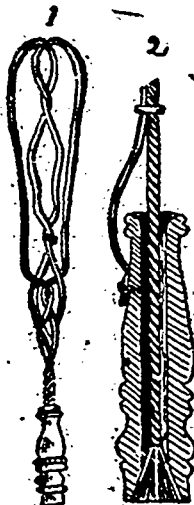
suitable lure or bait is located within the cage, behind a grid composed of metal rods



or wires, arranged side by side to form the positive and negative wires of the circuit. When the rat or other foredoomed victim, seeking the bait, comes in contact with the wires of the grid, the circuit is thereby closed. Of course, the current must be strong enough to produce a fatal shock, or the invention would not succeed as an electric trap.

A Neat and Effective Clothes Beater.

The illustration represents a light and simple device for switching or beating clothes, carpets, etc., which has been patented by Mr. Matthew Fitzpatrick, of Omaha, Neb. The beating portion of the implement is composed of two spring metal wires, bent and intertwined to form loops, as shown in Fig. 1. Near the handle portion the wires are twisted or braided to form a single body sufficiently long for insertion into the handle, shown in section, Fig. 2, and having a longitudinal aperture of diameter greater than the twisted portion of the wires. The rear portion of the handle aperture is made flaring, whereby a plug



may be inserted and driven to place between the separated inner ends of the wires to firmly fasten the beater portion to the handle. To assist in holding the wires in place and impart to them additional elasticity, a flat spring is held at one end by a screw or rivet to the handle and is attached to all the wires at its other end near the point where the loop portion of the beater commences.

Mulch for Orchards—Ornamenting Old Stumps—Feed the Cow—The Manure Heap—Right Kind of Food—Salt for Cows—Catching Chickens—General Notes.

It is absolutely necessary to supply to the soil such plant food as is lacking. The only question to be decided is how to supply it most economically.

Lime is recommended for use in case of mildew in cucumbers and diseases among potatoes. Powder the lime and shake it through a sieve, being careful to distribute it thoroughly.

It is easy, says Galen Wilson, to prevent cabbage worms from injuring the plants. Just keep the crowns filled with soil. The heads grow up from the bottom and throw off the earth.

Sugar beets should stand from seven to nine inches apart according to the fertility of the soil. Cultivate them flat, give them plenty of sun, stir the ground thoroughly and aim to produce beets weighing about a pound when topped and cleaned.

One man last year used on 20,000 currant bushes 40 pounds of hellebore. This is at the rate of about an ounce to 30 bushes. Every bush had a little hellebore, but if there was no sign of worms only the slightest shake of the box was given in passing.

Small, knotty fruit of any kind is a non-paying article. It is better to grow a dozen berries to make a pint than to grow fifty. With grapes remember that ten bunches weighing fifty pounds will sell better than twenty bunches making the same weight.

Those lands which in Continental Europe are devoted to the grape and produce the best and most costly wines are remarkable for the great amount of phosphoric acid they contain. The soil of the renowned Clos Vougeot vineyard in France contains 4 per cent.

A fifteen-mile journey is an average day's work for a horse. How far does the cow travel in a poor pasture, nipping a penny-weight of grass here and there, to get her daily ration? Then she is expected to pay for it through the milkpail, says the Mirror and Farmer.

While butter is cheap use all the cream and milk in cooking and upon the table that you wish. For vegetables, pie-crust and many other uses in the culinary art cream is far ahead of butter or lard, and should be indulged in by every farmer's and dairyman's family.

Mulch for Orchards.

Mr. Samuel B. Green, in a late letter to the Farm and Fireside, replying to a subscriber's question whether it would be best to keep his orchard completely mulched, and if so with what material, said: "The best mulch for an orchard is a loose top soil. If an orchard is heavily mulched the roots are very liable to come to the surface and be injured if the mulch is removed. Then, it is very apt to stimulate a late fall growth, which is not advantageous."

Gloomy London.

During the year 1884, 89,051 persons died in London, or 223 a day. This gloomy record is made darker still by a statement that during the same year in London the sun shone brightly on only about sixty-five days.