

TOOTHED-WHEEL WIRE FENCE.

The engraving represents an improved wire for wire fences recently patented by Mr. Jacob Stoll, and being introduced by Messrs. Jacob Stoll & Co., of Fountain City, Wis. In this wire the usual rigid barb is replaced by a toothed wheel which is capable of revolving, thereby avoiding injury to cattle which may come into contact with it, while it affords a perfect barrier to the passage of either large or small animals.

The wire, as will be seen by reference to the engraving, is made with alternate twisted and looped sections, the latter being pressed inward at the middle to form bearings for the spur or toothed wheels and to receive the wires which bind the two sides of the loop together and also form the main support of the toothed wheels.

Fig. 1. shows a portion of the wire complete, and Fig. 2 shows the parts in detail.

This form of fence wire has a great advantage over those having fixed barbs, as the toothed wheels simply prick the animals without tearing their skin or flesh.

Further information in regard to this invention may be obtained by addressing Messrs. Jacob Stoll & Co., as above.

Another Sinking Railway.

An addition must be made to the list of railway submergences printed in this paper some months ago. One day last summer a strip of railway, eight rods in length, near Ravenna, Ohio, suddenly sank, leaving in its place a pond out of which flowed a stream "the size of a barrel," bearing large numbers of white shiners, sunfish, and rock bass. Gravel, to the amount of 4,000 loads, was thrown into the opening and a new bed made for the road; but the work was no sooner completed than it followed the original part into the same mysterious cavity.

NEW HAMMERLESS GUN.

Mr. William W. Greener, of St. Mary's Works, Birmingham, England, some few months ago turned his attention to breech-loading guns without hammers. The points primarily considered were the important ones of durability and simplicity, combined with safety and easy manipulation, and the engraving shows a gun in which Mr. Greener has successfully combined these essentials.

Fig. 1 is a longitudinal section of the gun, and Fig. 2 is a view from the under side, with the lock plate removed. The barrels are hinged to the breech frame in the usual manner; but instead of the ordinary gun lock without side hammers, the tumblers, A, are made nearly in the form of an elbow lever. These tumblers have their upper ends curved forward, and are provided with a small rounded point, which is arranged to strike through a small hole at the center of the breech piece instead of the ordinary firing pin. The lower front portions of the tumblers, A, are extended forward in the form of a flat arm, and these arms are curved laterally inward, so that their inner ends nearly meet at the center, as shown in Fig. 2, each arm terminating with a small rounded projection on its lower side. These tumblers, A, are located in a recess which also contains the mainspring.

To one of the projections in rear of the joint is pivoted a pendant, C, which plays loosely in a vertical slot in the center of the front arm of the breech frame, directly in front of the converging arms of the tumblers. This pendant has a hook-shaped projection which engages under the front ends of the arms of the tumblers, so that when the rear ends of the barrels are raised the hook raises the arms of the tumblers far enough to permit the dogs, B, to engage in a notch in the tumblers, thus automatically cocking the arm.

To hold the hook, C, back far enough to engage with the arms of the tumblers, a pin extends through a projection on the under side of the barrels. The usual style of triggers are arranged to operate upon the rear arms of the dogs for firing the arm.

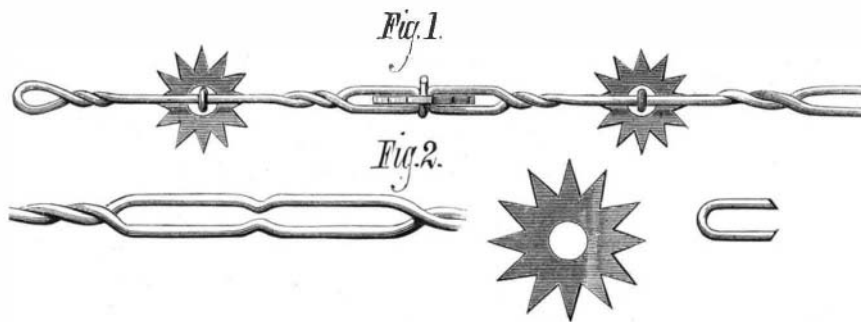
Yale's Heliometer.

The heliometer in process of construction for the new observatory of Yale College will have a six inch aperture and eight foot focal distance. Though an inch less in aperture than the largest instruments in Europe, it is expected that this will be unsurpassed in working efficiency. The cost of the new instrument will be about \$10,000.

The Gabble of Science.

The tendency nowadays to bow down to science, and to measure everything by its scientific standing or importance, has a ridiculous side as well as a good one. The London *Times* comments as follows:

"The popularization of science has its drawbacks, and perhaps not the least of them is the sort of worship, analogous to that of very young ladies for the curate of the parish, which is offered by silly people to those who are—or, more frequently, who are supposed to be—the chief representatives of scientific learning. The absurdities of the so-called æstheticism are not peculiar to gentlemen who lunch upon the sight of a lily, but have their close analo-

**TOOTHED-WHEEL WIRE FENCE.**

gies among those who profess to be scientific. There is a scientific jargon as well as an art jargon, both of them, in the lips of most people, concealing, or it may be even exposing, the most profound ignorance of the respective subjects of discourse. And there is a widely spread want of knowledge that the writer who has most successfully popularized a given question is not of necessity the one who is best acquainted with its depths."

The Mountains of North Carolina.

A correspondent of the *Tribune*, who went to the mountains of Tennessee and North Carolina "to avoid the heats of a Northern summer," writes as follows from the summit of Roan Mountain, 6,367 feet above the sea:

The prospect is magnificent; the grandest scenery in the United States east of the Yosemite. Over 100 mountain tops, not one of them less than 4,000 feet in height, are in full sight. This uplift in the heart of the Alleghanies, the Unaka range to the north, the Blue Ridge to the south, is declared by Prof. Gray, of Harvard, to be "the most beautiful mountain east of the Rockies." The flora on its sides changes with its increasing altitude. Chestnuts, sycamores, and maples clothe the base of the mountains, yellow birches and magnificent wild cherries line its sides, and beeches, alders, fir balsams, and immense groups of rhododendrons crown all but the very crest. On the top are 1,500 acres of the richest mould; the winds sweep the crest too fiercely for trees. Here botanists love to come to study mountain flora. Pro-

such slight density that no moisture is felt even in the midst of a cloud. Waves of fog roll visibly by and fold one in their white embrace, but leave everything dry; dampness is a thing unknown. The hygrophant morning and evening records from 85° to 96° of moisture, a very large percentage; yet no dampness is felt on dress or skin. The springs are delightfully cool. The one nearest the hotel is only 13° above freezing. Ice is unneeded here.

NEW INVENTIONS.

An improvement in hand trucks, patented by Mr. William May, of Binghamton, N. Y., consists of a double hook hinged on the lower part of the truck frame, so that it may be thrown up or open to rest upon the toe or end cross bar of the device, and operate, in combination with a hook that slides on the central longitudinal bar of the truck, to take hold of and hold a barrel, cask, or large box, the double hook being so hinged that it can be turned or folded down for the purpose of adapting the hand truck for the conveyance of bags or other articles that might be injured by contact with them.

A toy bank, made in such a manner that coin cannot be shaken out through the inlet openings, has been patented by Mr. Edward L. Gobisch, of Jersey City Heights, N. J. The invention consists in combining with the top of a toy bank a flattened inlet tube having keepers attached to the lower ends of its edges, wires sliding in the keepers, and carrying a plate, so that when the bank is inverted the inner end of the inlet tube will be covered, and the escape of coin prevented.

An improvement in the class of heating stoves and grates in which cylindrical pipes are employed to form the inner side walls of the same, the pipes being open at the ends to allow air to enter and pass through them, and thereby become heated, has been patented by Mr. Ross Hall, of Millersburg, Ohio. The invention consists, first, in forming the inner wall or walls of the fire chamber or space of a stove or grate of pipes, having in cross section the form of a triangle (preferably an equilateral triangle), securing a greater heating surface than is practicable with pipes of cylindrical or oval form.

Mr. Enos P. Miles, of Clay Center, Kan., has patented improvements in the arrangement and operation of the evaporating pans and the furnace flues and dampers for regulating the direction and quantity of heating passing under them, the object of which is to supply to the pans a gradually decreasing heat suitable to the successive stages in converting the juice to sirup.

An improved balance slide valve has been patented by Mr. Edmund Haug, of Whistler, Ala. The object of this invention is to secure equal steam pressure upon the top and bottom of a steam engine valve as soon as expansion takes place in the cylinder.

Mr. Thomas B. Cook, of New Lancaster, Ind., has patented an apparatus for filling ditch scrapers, so constructed that the scrapers can be filled more rapidly and with less labor than when the ordinary apparatus is used. The invention consists in a lever anchored at one end by a double clevis, two chains, and two stakes, and provided with a hook and chain to receive the scraper. A shoe or wheel supports the free end of the lever.

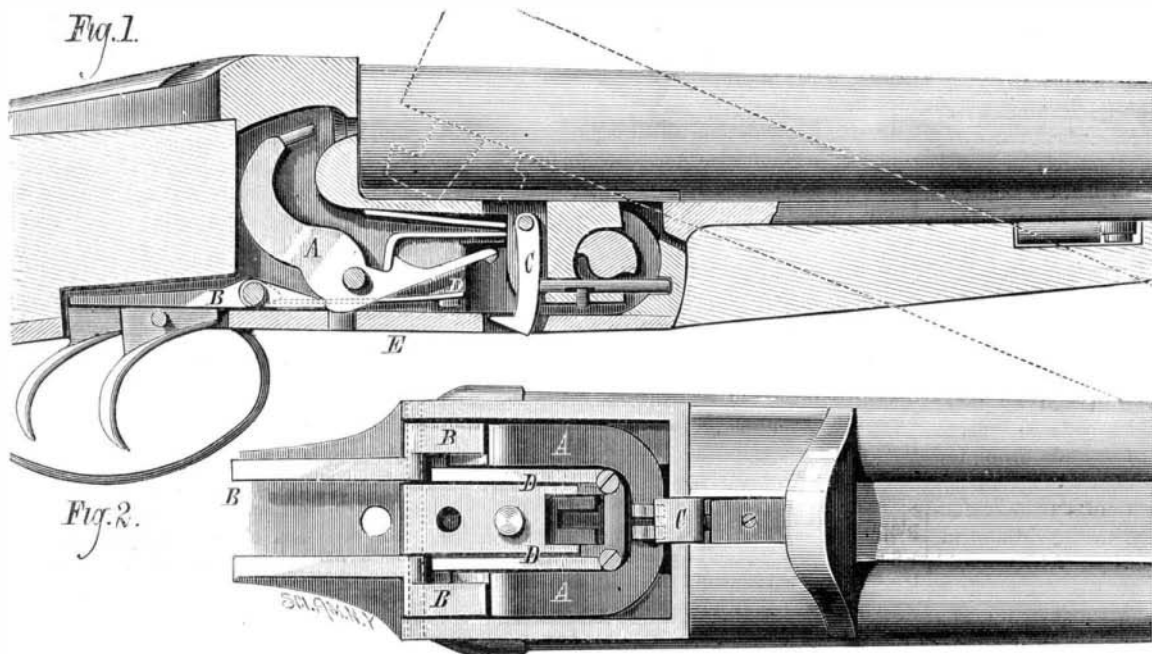
An apparatus for raising and lowering the sashes and covers of forcing boxes, cold frames, and similar uses, so constructed that a number of sashes and covers can be raised at the same time and by the same operation, has been patented by Mr. Lewis G. Stocking, Burlington, Iowa.

A combined ash sifter and bucket, so constructed that the ashes may be sifted in a room without raising a dust, has been patented by Mr. Charles C. Burnett, of Iowa City, Iowa, and which, at the same time, will be convenient in use, strong, and durable.

The invention consists in a combined ash sifter and bucket formed of the bucket made with an offset and slots in its upper part, and having a pivoted bail, the sieve having a supporting flange and a handle, and the sliding guard plate to prevent fine ashes from escaping.

Mr. Charles H. Shaw, of Troy, N. Y., has patented a durable and effective clasp that can be attached to the bracelet without soldering.

Mr. John A. Harrington, of Groesbeck, Texas, has patented a simple device for preventing the tire from becoming loose because of the shrinking of the felly, and for preventing the loosening and rattling of the spokes.

**GREENER'S HAMMERLESS GUN.**

fessors Gibbs and Goodale, of Harvard, have left us, but seven other scientists remain to seek health and to study science. Here they find mountain heather, superb groups of rhododendrons, azaleas, and other shrubs and grasses that can be found nowhere else in America. They will not grow at lower altitudes or on the same height in other places.

The fauna of these mountains is that of much colder regions. Little snow birds abound. They find the temperature their nature craves a thousand miles this side of Canada. An occasional eagle, numerous buzzards, and many robins fly around. Great clouds of fog fill the valleys, and at times sweep the mountain top. But the atmosphere is of