

New Inventions.

Inventions Wanted.

Calls are made for a number of highly important and useful improvements, which our inventors should lose no time in supplying.

The first is for a new plow, an article of universal demand. We publish an interesting article on the subject, setting forth what is needed, on another column, which inventors will do well to read.

Another much-wanted improvement is a Corn Husker. The husking of corn is now done by hand, at an average expense of five cents a bushel, or *thirty millions of dollars a year!* Think of that, inventors. Thirty millions of dollars annually lost for want of Corn Husking machines.

Machines for cutting down trees are in great demand. Something that can be easily used and transported up hill and down dale, is needed.

Contrivances for milking cows are much called for. It has been satisfactorily settled, we believe, that, by means of a vacuum, the milk may be readily withdrawn. It remains for the ingenious to present the public with compact and convenient inventions for the purpose. There is a greater demand than ever for inventions of all sorts. Patents for good improvements are selling for large sums.

Water-Proof Textile Fabrics.

We have lately examined some specimens of cloth rendered water-proof, but not airtight, the invention of Benj. Weigart, of this city, who obtained a patent on the 19th of last month. The invention consists in saturating the cloth in a thin solution of sulphate and acetate of alumina, caustic soap, and glue, then drying it. This composition forms an insoluble material when dry, which envelopes the fibers of the cloth, and resists the passage of water through it, except under pressure. Alum and soap has been used in solution to effect the same object, but not combined with glue, which appears to be an improvement.

Tree Cutting Machine

Referring to our engraving it will be seen that the cutting is done by a horizontal saw, which is connected, by means of a rod, or pitman, A, with the fly wheel, B, whose shaft is put in motion by means of gear wheels and cranks, as shown.

The principal feature of novelty consists in the manner in which the saw is held, guided, and fed up against the tree. This is done as follows: C is the saw holder, to the front end of which the saw is firmly bolted. Holder C is connected by means of rods and levers, D E F G, with a movable bed plate, H, one end of which, at H', is pivoted to the frame of the machine, so that if the bed plate, H, is moved, the saw and all its appurtenances are also moved. The office of rods and levers, D E F G, is to do away with a gate, and yet to hold the saw firm, and cause it always to vibrate horizontally. For this purpose one end of rod, D, is furnished with a slide, which traverses a slot, I, in bed plate, H.

The saw is fed up against the tree by moving the bed plate, H, and this is done by means of a spiral spring, J, which connects with a pulley, K, and a strap, L, extending from bed plate, H, and winding on pulley, K. The tendency of the spring is to pull the bed plate, H, over towards pulley K, and the saw is thus constantly pressed or fed up against the tree.

M is a lever for increasing or releasing the tenacity of spring J. The lower end of the lever is connected with the spring; the upper end is provided with a rack, N, the teeth of which catch in a pin on the frame, and hold the lever in any desired position. O are removable legs, which may be adjusted and secured in any position by the set screws, P, so as to readily accommodate the machine to any unevenness of ground. The front end of the apparatus is secured to the tree by means of a dog and staple at Q. When the saw has cut far enough into the tree a wedge is driven into the cut, which prevents the tree from leaning over and binding on the saw.

This improvement, by its extreme portability, simplicity, and strength is calculated to render important aid in cutting down trees.

It cuts close to the ground, thus saving wood, may be adjusted so as to cut at almost any angle, leaves the butt ready for the mill, does

the bottom rim of the wheel, to throw the buckets together when the water is shut off as at *h*. S the shaft.

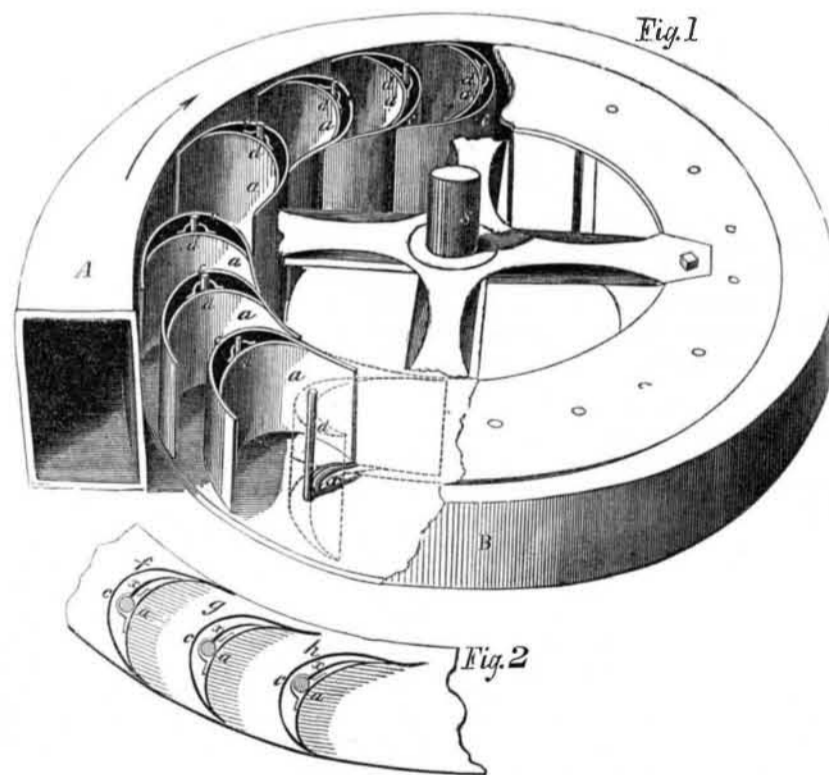
MACHINE FOR CUTTING DOWN TREES.



its work with great rapidity, runs easy, cannot well get out of order. We are informed that its total weight is only 150 lbs., so that it may be transported and moved about, in all localities, with much facility. The expense of

manufacture is quite small. Invented by S. Ingersoll, of the Farmer's and Mechanic's Manufacturing Co., Green Point, N. Y., opposite New York City, where further information can be obtained. Patent applied for.

IMPROVED CENTER VENT WATER WHEEL.



Improved Water Wheel.

Our engraving illustrates an improvement in Water Wheels, invented by Mr. E. G. Cushing, of Dryden, Tompkins Co., N. Y., for which application has been made for a patent.

A A is the scroll, with part of the top detached. B is the shell of the wheel partly removed to show the buckets. *a* are the buckets having the form of an epicycloidal curve to the radial line, and continued from thence in the circle corresponding with the inner diameter

of the wheel to the end. *c* are backs either cast wholly with the buckets, or put on with separate pieces of metal. *d* are bolts made of round iron upon which the buckets vibrate. These bolts are turned with shoulders and secured by nuts on the top and bottom of the wheel. In fig. 2, *f*, shows the position of the buckets when there is but little water let into the scroll. *g* shows the position of the buckets when working at the maximum power with a full gate, and *h* their position when emptied of water. *x* are springs secured to

The wheel is horizontal with perpendicular shaft, and is direct acting. The great superiority of this wheel over all others of its class, it is alleged, consists in making a double bucket with the back of such a curve that the space between the buckets will be of a regular contraction from the entrance to the discharging apertures. It also combines to make the bucket stronger and more durable, and also to obviate the necessity of having the bolts, with which the wheel is fastened together, from coming in contact with the water, thus leaving it entirely free from all obstacles or impediments, which tend to obstruct and break the fluid vein, and thereby divert it from its most efficient course.

Another important feature consists in contracting the fluid vein from the time of its entrance into the wheel until its discharge, thereby causing a uniform pressure throughout the wheel, and also divesting it of any chance whatever of becoming incommoded with dead or slack water between the buckets, as well as to deprive the wheel entirely of air from the first entrance of the water.

The next arrangement consists in hanging the buckets between the rims in such a manner that the inside portion of them has an advantage of leverage, so that the water, in seeking a discharge, will at once open them sufficiently to dispose of the water let into the scroll and according to the amount of power required of the wheel. Also, in the event of any solid substances entering the scroll, instead of the buckets coming rigidly in contact with it, and smashing them out, they will yield instantly to it, and pass by without damage. The springs, *x*, are arranged so that when the gate is shut, they instantly close together on the inner diameter, which causes the water to act immediately upon the wheel, as soon as it comes in contact therewith. The chief value of this invention consists in using a small quantity of water with the same per cent. of power as with a full gate, a desideratum never before obtained, it is alleged, by any other horizontal water wheel.

Poisoning with Strychnine Cured

The Rochester (N. Y.) Democrat of the 15th inst. gives an account of a case of poisoning with strychnine which was cured by emetics and chloroform. Josiah Montgomery, one of the Police of that city, took four grains of strychnine by mistake; as soon as he discovered this, he ran to Dr. Swinburne, who administered an emetic, and shortly afterwards a second one. These failed to operate, when a Dr. Bly was sent for, and found the patient convulsed with spasms, and the jaws firmly locked. Chloroform was then administered by inhalation, which had the effect of relieving the spasms in three minutes, and stopping them entirely in twenty. Another powerful emetic was then given, and the chloroform administered at intervals, as it was found that when its effects wore off the spasms returned. In about ten minutes after the third emetic was given; it began to operate, and by the use of warm water drinks the stomach was soon cleansed. The patient, however, was kept under the influence of chloroform for eight hours, at which time the spasms ceased entirely and he ultimately recovered. This is a remarkable case of recovery from the effects of such a dose of this terrible poison—one grain of which will produce death.

SPLENDID PRIZES.—PAID IN CASH.

The Proprietors of the SCIENTIFIC AMERICAN will pay, in Cash, the following splendid Prizes for the largest Lists of Subscribers sent in between the present time and the first of January, 1857, to wit

For the largest List,	\$200
For the 2nd largest List,	175
For the 3rd largest List,	150
For the 4th largest List,	125
For the 5th largest List,	100
For the 6th largest List,	75
For the 7th largest List,	50
For the 8th largest List,	40
For the 9th largest List,	30
For the 10th largest List,	25
For the 11th largest List,	20
For the 12th largest List,	10

Names can be sent in at different times and from different Post Offices. The cash will be paid to the order of the successful competitor, immediately after the 1st of January, 1857.

See Prospectus on last page.