

## New Inventions.

### Good Invention for Canal Navigation.

Mr. James M. Burdick, of Fort Ann, N. Y., has invented a most simple plan to prevent the horses of canal boats from being drawn over the bridges of rivers where the current is sometimes very powerful, when the boat is crossing. To say that he accomplishes his object in a most simple manner, is not enough to convey a true idea, nor notice enough of this good invention. It is well known that horses are often drowned from the causes stated, and the danger of those on board the boat is as great as that of the horses, when such an accident happens. It is not long since a boat was nearly carried over the lower falls of the Mohawk, below the Cohoes, from the cause stated—it was only by a most providential circumstance that every person on board was not lost. With the invention of Mr. Burdick applied to every canal bridge crossing a river, no such accident can occur. The bridge is made with a cheap, but peculiarly constructed railroad—one rail at a greater elevation than the other; and on this is placed a small carriage, to run upon the rails. To the one side of it the horses are attached, and to the other the boat; and the horses draw the carriage on the rails along the bridge, and therefore the boat below. There are two horizontal wheels on the carriage, bracing opposite one another, on the sides of the rails, so that no drag of the boat comes directly on the horses. Measures have been taken to secure a patent.

### Improved Smut Machine.

Messrs. S. S. Gouldthrite, of Lowville, and and Cyrus D. Gorden, of Martinsburg, Lewis County, N. Y., have invented improvements on the Smut Machine, which appear to render it perfect for the purpose intended. The grain can be conducted into it from any place in the apartment, by a spout, which conveys it to a central hopper, on the top of the machine.—This hopper has side slits at its bottom, and is secured on a vertical shaft, which has a pulley on it, near its lower bearing, which revolves it, and an interior chamber inside connected to it. This throws the grain between three circular descending fluted chambers joined together, where the grain is rubbed, the balls broken and the lighter coarser particles thrown out at slits above, by the wind of the revolving chamber spoken of, which has fans on its outside, acting the part of blowers. The wind is drawn in to holes at the bottom of the said revolving chamber; and on the outside of all is a finishing slitted screen or fluted curb, through the slits of which the finest dust is blown out, and the grain falls down pure and clean, into a proper receptacle below.

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### Good and Novel Invention.

A London mechanic has invented a small apparatus which he attaches to a common clock when he goes to bed, and sets it to free a lever, which rings a bell and lights a lamp by igniting a match, at any hour to which it may be set to awaken him. We are not yet sufficiently acquainted with its construction, but the idea at once conveys possibility of execution, and certainly it is an invention both convenient and exceedingly useful.

### Build Your Railroad Bridges Strong.

A number of railway arches have lately fallen in England, causing much damage and expense; and we perceive by exchanges that a railroad bridge over a creek, near Covington, Georgia, was precipitated to the ground, a distance of 50 feet, when the train was passing over it. The conductor was killed and the cars smashed to pieces.

### Great Rifles.

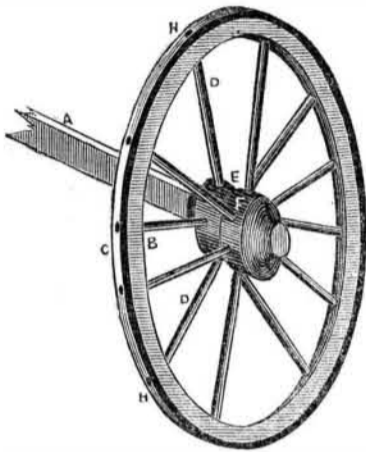
Next week we will describe the celebrated "Breech-loading Prussian Rifle," finely illustrated. It has been recently patented in the United States. It is quite an original invention.

A fine ancient statue of a Wrestler, has just been discovered at Rome. The foot is long and the limbs sinewy but thin. It is said to be a work of the Augustan age.

### Improvements in Wagon Wheel.

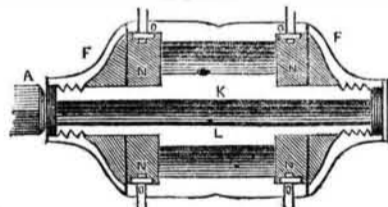
This is an improvement to fasten the spokes of wagon wheels and the tire, in such a manner as to obviate the evil resulting from the breaking of oblique set spokes, secured by nuts inside of the felloe. The inventors are Messrs. John C. & Geo. F. Fowler, of Newbury, Vt., who have applied for a patent. Fig. 1 is a perspective view of the wheel, &c., and fig. 2 is a vertical section, showing the inside of the hub, and how the spokes are secured in it. A is the axle; B is the felloe of the wheel; C is the tire; D D are the spokes. The spokes are set obliquely into the hub, which is made, as it were, of two distinct hollow boxes, E E: the one spoke alternately after the other, pass-

FIG. 1.



es into and is secured in the hub or boxes of it, making what is called a suspension wheel.—The hub is formed with a tube, K, extending through it, which is the journal box of the journal of the axle, seen in fig. 2. F F are two caps secured to enclose the ends of the hub. S S are two holes or orifices bored through the solid part, between the two chambers, E E. An end view would show a circle perforated with holes, but this section is cut through the said holes. The middle between the two chambers represented by N N, is solid, only it is perforated with the small holes: O O are nuts that secure the spokes in the inside of the chambers or compartments of the hub. The heads of the spokes (metallic) are fitted into the countersinks, H H, in the tire, and spokes are secured to any degree of tightness by the nuts, O O. It will be noticed that the tube or journal box of the hub has a screw on it at both ends, and the caps, F, have threads on them to fit. It may be supposed that it is absolutely necessary that there should be nuts on the spokes inside of the felloe, for the spring of the wheel. The inventors have found (as they have manufactured them) that

FIG. 2.



this is an evil in metallic spokes, because there is no room for the spring of the spokes and the consequence is, spokes often suddenly snap in two at the shoulder. Messrs. Fowlers allow room for the spring of the spokes, by securing them inside, only one nut for each, and they can use strong vulcanized india rubber washers inside of the nuts.

### Salter's Iron Furnace.

A correspondent in the Newark Sentinel, N. J., thus describes Mr. Salter's Furnace, the claim of whose patent, appeared in our list three weeks ago.

"His Furnace is adapted to ores, yielding 40 per cent and upwards of Iron. It consists of a triple chambered Furnace, one above the other—the ore being pulverized and mixed with hard coal and ground fine is placed in the upper chamber—where the gases and impurities, such as sulphate, &c., are carried off at low temperature. From thence it is drawn through openings in the bottom, into the second or middle chamber, where the fluxing materials are added—thence it is drawn down openings to the lower or puddling chamber—the whole process occupying less than an hour and a half.

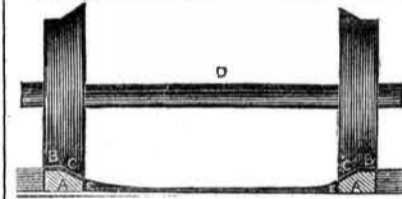
Five men are required each turn to work the Furnace, and the yield is about 400 lbs. per hour and a half. Two and a half tons coal are consumed in 24 hours. The cost of the Iron will vary according to the facilities for getting the ore and coal, the cost of labor, &c. Former experiments have proved as far as they have been made, that anthracite coal does better as the deoxidizing material than bituminous coal, and quite as well as charcoal, but the bituminous coal, is quite as good (though no better) as either for fuel to heat the ores."

It is stated that iron of the first quality can be made by it at Newark and sold in New York at \$25 per ton.

### City Railways.

There is one good and decided objection to railways in cities, viz., the difficulty which carriages and carts experience to turn out of the track, if by accident or otherwise they get into it. In fact it is scarcely possible to do so without crossing it at right angles, or nearly so. To obviate this difficulty Mr. T. Hyatt, No. 472 Greenwich street, this city, has invented a new rail, and new wheel to correspond with it, which is here presented.

A A are the rails, formed with inclines on the inside, and with the upper surface level with the street. The wheel has its tread, B C, made to correspond with the form of the rail; D is the axle of the wheel; E E is the track for the horses; it is lower than the rails to keep dirt from collecting on the inclines of them. Mr. Hyatt reasons thus:—that as high speeds are not necessary on city railways, the improvement to be made must be on the wheels and character of the rails, to remove all objections and render them acceptable to the public. He therefore dispenses with flanged wheels and uses broad rails. He also proposes broad wheels with a groove in the middle of the periphery of each wheel; and rails with a projecting rib on each, as good substitutes for the flanges on the wheels. The grooves in the



wheels would not require to be deep, nor the ribs on the rails high, for a slow speed. A groove in the rail would not answer well, because it would fill up with dirt, &c., and its utility be destroyed. These improvements of Mr. Hyatt are worthy of attention, and will no doubt meet with the favor which they deserve.

### Perpetual Motion Again.

A letter to the Journal of Commerce, New York, thus describes a new perpetual motion that has lately been invented by a Mr. Richter, of Madison Geo.:

Within a glass case about the size of a common Yankee Clock, is held a brass wheel and its adjuncts composing the machine. The motive power is gravitation, operating upon weights thrown off from one side of the wheel. Lead weights slide along the circumference of the wheel; to each of these is attached an arm, occupied with a brass bar, in such a manner as to throw out the bar with a brass weight attached to the extreme end, unfolding these bars in turn, much as if the hand that had been held drawn up to the shoulder, were thrown outward from the body by the straightening of the elbow joint, the extended clenched fist occupying the position of the brass weight. The brass weights carry their side of the wheel downward, and as each leaden weight, which had slid forward and downward upon its passing the vertical point, passes the opposite point below, past which it is carried by the gravitation of the brass weights, it slides or falls back, and this movement in turn moves the inner end of the bar to which the brass weight is attached, in such a manner as to cause the weight to fold themselves up. This position they occupy within the circumference of the wheel until again the leaden weight passes the vertical joint, and they are in turn acted upon from the wheel as before. A cord passing around the shank of this lower motive wheel, is carried over a wheel above, carry-

ing what may be called the escapement works of a clock with a pendulum. The pendulum, and the motive wheel below will continue its revolutions; stop the motive wheel below, and the pendulum above stops, showing that the motive power lies in the wheel with its weights below, and not in the works above. Loosen the cord that passes over the shank of the motive wheel below and carries the works above, and at once the motion of the large wheel below is accelerated, constantly increasing in speed with its own revolutions, and throwing off the weight with a rapidity and force that, unchecked, would cause the machine to tear itself into pieces. The inventor finds it necessary to keep the cord quite tight around the shank of the great wheel, in order to prevent his machine, when in motion, from destroying itself by the mere force of its own propelling power.

[We do not like to occupy much room with such a subject as the above, but it is necessary for us to notice such things in order "to point a moral." It is a law in mechanics that no machine can give out more power than it receives,—mathematically it gives out the same, but experimentally less;—friction is resistance, and this in time will arrest its motion. The perpetual motion mentioned above is apparently an old invention, and is described in Vol. 6 of the Franklin Journal, 1828. It is time that Perpetual Motion was obsolete with our newspapers.

### Ice Houses.

As the time is at hand when ice is formed by nature, for the benefit of man, no farmer or any other person who can, should neglect to lay up a store for the summer use. It is so useful and economical, owing to its preserving qualities that no one who has butter or meat to preserve, or water to cool, should be without it. The cost of constructing an ice house, is small, and any person can do it. If possible, the ice house should be near or in the cellar.

A hole of the capacity desired, is first excavated in the bottom of the cellar from 5 to 6 feet deep, and the bottom covered with stones of a small size after the manner of paving streets. Over this, when completed, and the interstices filled with fine sand, is superinduced a stratum of boughs, either of hemlock, spruce, pine or fur, as may be most convenient. The sides are then to be lined with the same, as is also the top, which is formed by cross work, with an opening two or three feet square in the side or centre to subserve the purpose of a door. Into this depot the ice should be introduced in square cakes, of uniform size, in order that they may occupy less room. The whole process of constructing and filling, it will be seen, is very simple, and the expense, very light. A hole dug in the ground and covered with a flat roof of board over which is laid tarred cotton cloth, covered with some inches of sand makes a good ice house.

### Ancient Patent Instrument for Church Sleepers.

It appears from Lewis' History of Linn, that in the early times of Massachusetts, it was the custom for a man to go about the meeting houses during divine service and wake the sleepers. He bore a long wand, at one end of which was a ball and on the other was a fox-tail. When he observed the men asleep, he rapped them on the head with the knob, and roused the slumbering sensibilities of the ladies by drawing the brush slightly across their faces—these were the days of raps and snubs.

The Russian Scientific Academy has announced that, in obedience to the directions of the emperor, a committee has been appointed to report on the project of the French chemist, M. Archerot, for lighting St. Petersburg with electricity. Experiments are to be made on a large scale in several parts of the city.

The corpse of Marlan, the celebrated balloonist, who recently crossed the Alps, from France, as noticed by us some time since, has been found on the Spanish coast. Ballooning is yet very unsafe, and this is the reason, we suppose, that no trip has yet been made to California.

No less than five steamers left the port of New York last week for California.