

## New Inventions.

## Breech Loading Cannon.

Our countrymen have a high reputation for inventing destructive instruments of war.—This is well known to the governments of Europe, and is the reason why a commission of officers, from England, is now in this country, in order that Uncle John may keep posted up with Brother Jonathan in shooting irons. The race, however, will be a tough one, even if the present most improved of our instruments are adopted, for invention after invention succeeds one another so rapidly, that no wonder Captain McKinnan, R. N., was not unprepared for a proposal from an American to take the Caffre war (when it existed,) on contract. Among the many new improvements in the battling line, we have to chronicle an application which has been made for a patent by S.H. Starr, Lieutenant U. S. A., (now residing at Burlington, N. J.) for a very ingenious improvement in breech-loading cannon. It is constructed with a receiver constituting the breech and charge chamber. It is bored uniform with the barrel, and has its front part or neck made of a conical form, and turned to fit into a recess made to receive it, in the barrel. This cone has a broad shoulder at its back, fitting to the rear of the barrel. The outward form of the receiver is the same as that of the ordinary cannon, except it is furnished with trunnions, a ring and a band. The breech slides back, and swings upwards, so as to receive the charge, and then it is run forward into the barrel and clamped tight with an ingenious and quickly-acting band. The improvement is a good one, as has been acknowledged by every person who has seen it.

## Washer Hinges.

It has long been a desirable object to produce a complete hinge by one molding and one casting. This has been accomplished by Nelson Gates, of Cincinnati, who has applied for a patent. The invention consists chiefly in the employment of a washer of concavo-convex or other suitable form, in every joint of the knuckle, to enable the washer to form a pivot, or to receive a portion of the knuckle which would form a pivot. A suitable number of these washers are placed in the mold of the hinge at proper distances apart, and when the metal is poured out they form a separation of the two parts of the hinge, and without any pin (as in the common hinge,) they serve as a pivot.

## Canopy Mosquito Net.

The most simple and convenient net for beds we have ever seen, for preventing the entrance of mosquitoes, is one recently invented by C. A. Haskins & Co., No. 84 Chambers st., this city. A rod is secured by a link and hook to each post of the bedstead, and they extend upwards at an angle of 45°, and meet in the center above the bed, and are secured there altogether under an ornamented cap.

The parts are so constructed as to fit any kind of bedstead, and the net is so arranged that it will contract and expand by an india rubber braid so as to fit snugly on every bed to which it is applied. It is portable, neat, and ornamental. By a cord, the net can be raised or lowered at pleasure by a person in the bed, and it can be taken down in half a minute and applied to another bed.

When we consider what evils are experienced here and in other places, for the want of such an excellent mosquito protector, we look upon this improvement with no small degree of favor.

## Brick Kilns.

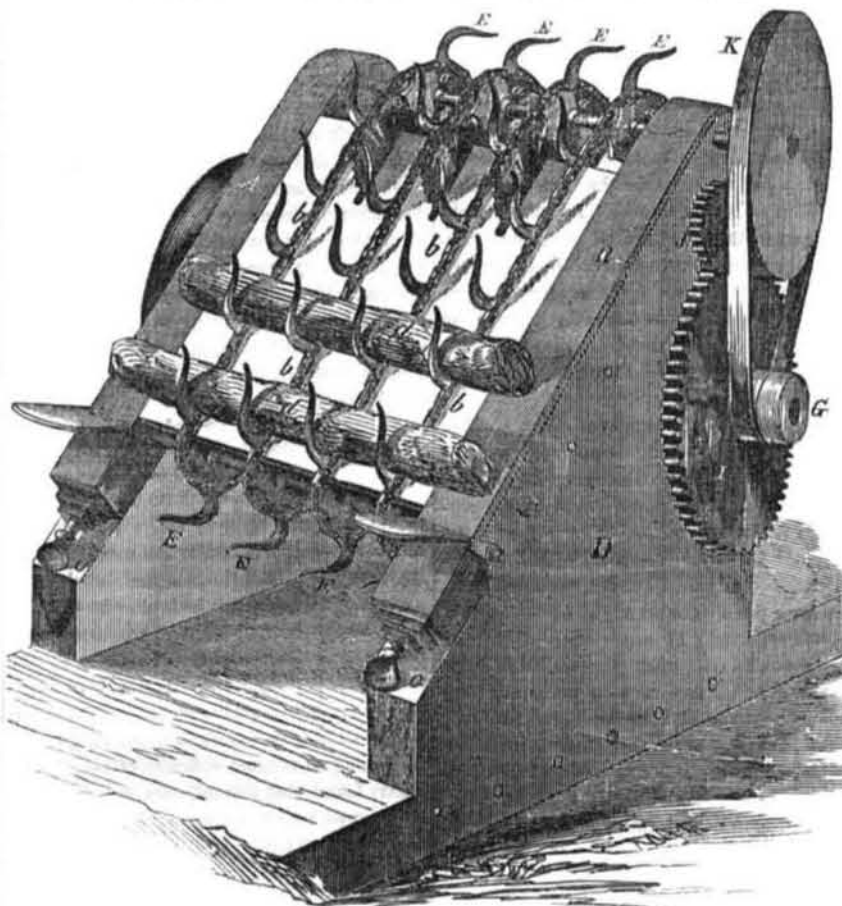
Washington Gordon, of Haverstraw, N. Y., has taken measures to secure a patent for an improvement in kilns for burning brick with anthracite or other coals as fuel. The fire chambers are constructed in a peculiar manner, and blasts are used for the purpose of intensifying the heat and regulating it, as desired. The burning of brick is a very nice operation. It requires great experience to do this properly. We are glad to see coal employed as a substitute for expensive wood fuel.

## Self-Fishing Fishing Rod.

This title is no misnomer. Antonio Meucci, of Clifton, Staten Island, N. Y., has taken measures to secure a patent for an improvement in fishing rods, the object of which is for the rod itself to catch and haul the fish up when it bites on the bait. The rod has its small tapering part, over the point of which the line passes into the water, secured on a kind of swivel joint, connected to a spring, in such a

manner that when the fish bites on the bait, and pulls the line with a very small force, a small catch or trigger is liberated on the rod, and the outer end is thrown up, projecting the hook into the fish, and lifting up both line and fish. The inventor is quite a disciple of old Ik Walton, and has great experience combined with ingenuity in catching the finny dwellers of the briny deep.

## MACHINERY FOR SAWING FIRE WOOD.

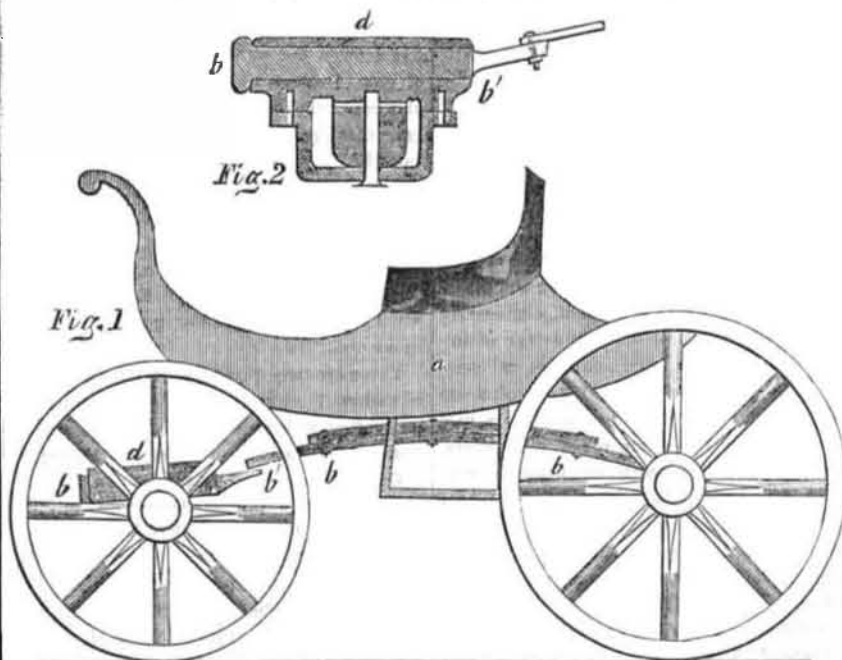


This figure is a perspective view of an improvement in feeding apparatus for sawing firewood. The inventor is Archibald Winter, of Rondout, Ulster County, N. Y., who has taken measures to secure a patent. The nature of the invention consists in the employment of a series of endless chains provided with hooks, so arranged as to convey the faggots of wood to one or more circular saws, and to carry away the wood to any convenient place. A B are strong side sleepers, and D is a strong wooden frame. *a a a a* are sprocket wheels, secured on shafts, and *b b b b* are endless chains revolved by them. These chains are constructed with a number of hooks, *E E*, in rows, to carry forward the billets of wood, *d d*, and hold them to the action of the three circular saws, as represented, and then carry them forward

and discharge them into a proper receptacle at the back of the machine. *O O* are adjusting screws for tightening the endless chains by moving the bearing boxes of one shaft of the sprocket wheels. *G* is the driving shaft. By a band passing over pulley, *K*, it drives the main spindle which has the sprocket wheels on it, and thus moves the feed chains and carries forward the billets of wood. *I* is a gear wheel which by meshing into the pinion, *J*, revolves the shaft of the circular saws. This explains all the parts and motions of the machine. It is well adapted for sawing wood for locomotives or any other purpose for which wood is used for fuel. Any kind of power, steam, water, or animal may be applied to work it.

More information may be obtained by letter addressed to the patentee.

## IMPROVEMENT IN CARRIAGES.



A patent was granted on the 13th of last June to James L. Rowley, of Defiance, Steuben County, Indiana, for the improvements illustrated by the accompanying figures, 1 being

a side elevation of a carriage, with improvements attached; 2, a vertical longitudinal section of the swivel joint. The improvement is principally adapted to light vehicles, such as

four wheeled buggies. Instead of making the reach of the carriage of wood or iron, without springs, it is made of an entire spring, which is made to connect with the front axle so as to form a swivel joint. This combination and arrangement dispenses with a number of parts—bolts, screws, &c.—materially reduces the cost of construction, and produces ease of action in the carriage. *a* represents the light carriage body supported upon the spring reach, *b b*.—The spring reach consists of two springs attached to the hind axle, which meet and are firmly united together before they reach the front axle, as at *b'*. At the point of their junction, they are attached to a strong round bolt of iron *b*, figure 2, which passes through and plays freely in the socket, *d*, which socket is firmly secured to the front axle by iron straps, or otherwise. The front extremity of the bolt, *b*, is prevented from slipping back by a common head or nut. This swivel joint thus formed allows the vertical swing or play of the axle, while it forms a strong attachment for the spring reach.

The claim is for the swivel joint on the front end of the same, as shown and described.

More information may be obtained of Mr. Rowley, by letter addressed to him at his place of residence, named above.

## Sewing Machines.

About five years ago we do not believe there were over three or four sewing machines in use in our country, now they can be counted by thousands. They are found in the factories and in private dwellings, sewing the coarse bag and the most delicate piece of cambric.—These machines, since they were first introduced, have advanced towards perfection with a rapidity that is truly astonishing. So many patents have already been obtained for improvements, that it is very difficult to keep posted up in their progress; this is evidence of their importance, and at the same time, it is a sign that applications of them for various purposes, demands new modifications, devices and arrangements.

Application has just been made for a patent by Charles Parham, of Philadelphia, on the sewing machine combining two threads—a shuttle and needle—the object of which is to dispense with the shuttle race, in order to obviate the friction attendant on its use, and which requiring oil to lubricate it, often soils delicate articles. He employs a shuttle carrier in which the shuttle fits, so as to allow it to pass through the loop, but requires no movement independent of the one which is given to the carrier, and which requires no fixed guide to produce friction, excepting on the side which does not come in contact with the threads.

## Newly Invented Clock.

S. W. Botsford, of 52 Dey street, this city, has invented and shown us a clock for the China and Japan markets. It seems especially adapted to its purpose. The dial plate has the Chinese Hoang characters and the Japanese numerals. The hands move differently from our clocks, making a diurnal motion in 12 Chinese hours. The clock strikes from one to twelve; thus, when the minute hand leaves the meridian mark or character, it comes down to where the figure 6 is in ordinary clocks and strikes one for the Chinese odd hour; the hand goes up to meridian, and strikes two, and continues to strike at any odd and even hour: at midnight both hands point directly down. This clock is ingeniously arranged, and simple without, and by the introduction of Chinese characters and its cheapness, it will be within the reach of the lower classes and easily understood, whereas our ordinary clock, with its Roman characters, and different method of counting, render it useless, except to the highly educated, who could make the deduction and arrive at the time of day. The proper steps are being taken to secure a patent on the case, dial, and movement. Samples of the clock, which are well worth seeing, are on exhibition at Messrs. Coe & Co.'s, 52 Dey street.

## Manufacture of Iron.

The "Buffalo, (N. Y.) Democracy" of the 17th inst., gives an account of an improvement in blast furnaces, by G. Howard, of Ohio.