

New Inventions.

Great Invention.—Improved Piano.

A. Mr. Alexander Beban, of Paris, says the *Journal des Debats*: has recently made an improvement on the piano, which will create quite a revolution in the musical world. It attracted great attention at the recent Exhibition of Manufactures in Paris. It is a mechanical apparatus capable of being applied to all pianos, and by means of which every kind of piece can be executed. Quadrilles, polkas, waltzes, &c., spring as if by enchantment from this combination, under fingers the least practised, and the most unacquainted with the instrument. If one wishes to give a soiree or a country party, there is no need of looking about for performers; each member of the company can furnish his contingent of harmony, and pass in turn from dancing to music.

Gutta Percha Solutions.

Gutta Percha readily dissolves in a solution of chloroform without the aid of heat. The solution thus formed makes a capital varnish, for if it is brushed on any object, the chloroform evaporates with great rapidity and leaves a thin skin of the gutta percha, which thus acts as a preservative against the influence of water and air. It is therefore excellent as a plaster for cuts. This solution is excellent to preserve fruit in a collection of natural history. Heretofore wax has been used for this purpose, but it is not so good as this, for this solution prevents the fruit from drying. This solution is the best and most delicate varnish for paintings and drawings on paper.

The New Prussian Fire Arms.

We noticed some time since that a new breech loading musket had been invented in Prussia, and from the barren description of it which had then been given, it appeared to be the same as the breech loading muskets—which are well known here. But the "fire iron," it seems of the German, is different from the Americans, as will be perceived by the readers, who are acquainted with these things.

"The musket has no lock and is loaded at the stock end of the barrel. The barrel is slightly rifled, but the grooves are perfectly straight, and not spiral, as in the American gun. The common charge is one-half of that used in the old percussion gun, and is said to carry the ball to its mark nine hundred yards. None of the powder is wasted, the fire being communicated from the side of the barrel, and not from the breech. This is effected by an ingenious contrivance. The part of the cartridge next the ball is filled with an explosive substance similar to that in a percussion cap. This is made to explode by the contact of a piece of steel about the length of an eight-penny nail, which passes from the outside of the barrel through the cartridge. The gun is called the "nail firer." It can be discharged by a common soldier eight times in a minute, and need not be taken from the shoulder to be reloaded.

New Printing Press.

The New York Sun says that they are about to be furnished by R. M. Hoe & Co., with new printing machinery, by which they will be able to throw off from 15,000 to 20,000 copies of the paper per hour. Such is the immense edition of the Sun, although two of Hoe's gigantic "lightning presses," are in constant operation to print it, their speed is not sufficient for the demand.

New Method of Navigating Shallow Rivers.

Mr. Bourne has invented a method of navigating the shallow rivers of India, towing by steam-tug light barges, drawing only 12 inches of water. The illustrated London News contains a description and engraving of the craft.

Georgia Mechanics' Convention.

The Journal and Messenger (Macon, Geo.) calls the attention of the mechanics and artists of that State to the formation of a Mechanics' Institute, and to consult regarding the mechanics and artisans welfare.

Steam Linen Loom.

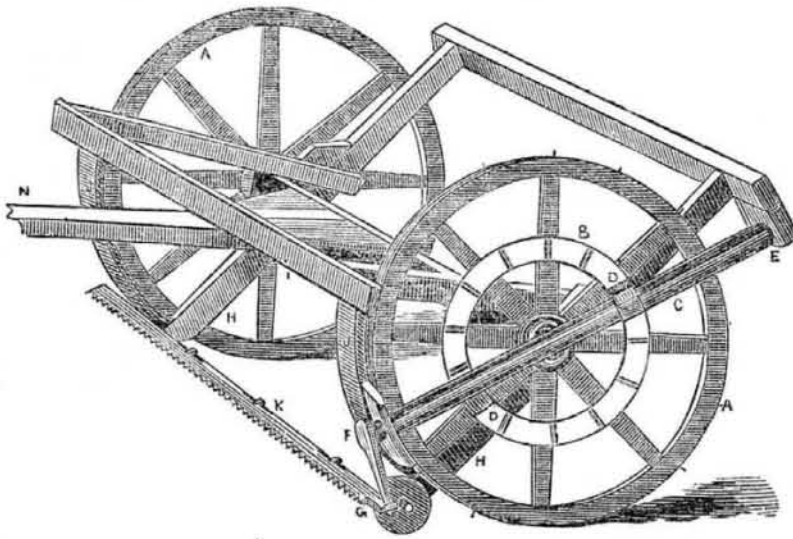
A correspondent of the N. Y. Commercial Advertiser indulges in the following description of a Steam Power Loom which shows that he has never been in Belfast. "A valuable invention has been made in Belgium. It is destined to effect a great reform in the manufacture of linen clothes as the steam loom has made in that of woollens. It is nothing less than a steam loom for linen fabrics. All the ingenuity and perseverance of manufactures have been tested to invent a machine of this kind; but the fabrics have been uniformly so poor that the machines have been thrown away and manual labor again resorted to.—The difficulty has been removed by the scientific skill of a Belgian engineer. A model of his machine, with specimens of the fabrics, has been exposed at the fair at Ghent. The

clothes are said to rival in firmness, fineness and smoothness the best of those made by hand."

Official Telegraph

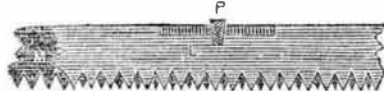
The first experiments with a newly-invented optical telegraph have been recently made at Berlin, Prussia. It is intended to be used in military operations, in time of war, and to communicate more rapidly, and farther information respecting the approach, numbers and distances of the enemy. It is capable of being transported, but cannot be used except in sunshine, as the communication of the news is made by the reflections of the sun's rays on a mirror. The experiments were witnessed by several officers of the Engineer corps, who were no doubt, perfectly astonished at the operations, something which we cannot be until we also have ocular demonstration of its power's.

ADKINS' GRASS CUTTING MACHINE.—Figure 1.



This machine is the invention of Mr. Homer Adkins, of Round Prairie, McDonough Co., Illinois, as noticed in our last number. It is made of two wheels, A A, like a cart, as shown in figure 1, which is a perspective view; and with reciprocating cutters, as shown in the section view, figure 2.

FIG. 2.



On one of the wheels of the wagon there is fixed a cog-wheel, B, and there are spurs on its periphery to make it take hold of the ground. There is a frame made of angular, longitudinal and cross bars, which is fixed around the axle, or rather the axle passes through, bearings in it, inside of the wheels, and by which its front end, with the cutters, can be lifted up with pressing down on the back part of the frame, at any moment. K, fig. 1, are the cutters; they are secured at the front of the frame spoken of, being placed low down on the longitudinal bars, H H, of the frame, in which there are bearings in them and also in the suspended curved bearings, J J, for a small roller, G, on each side, which support and roll under the cutters. The cutters are made of two blades, like long rip saws, the teeth of which may be angular or crescent formed edges, or the lower one may be of angular teeth, and the upper

ones crescent shaped. The lower blade is stationary—fixed to the bars, H H, at the ends. M, fig. 2, is the fixed blade; L, the moveable blade or cutters, and P is a guide on the lowest blade, which comes over above the upper one. The upper one has a reciprocating motion from side to side. This is given to it by the cog-wheel, B, and a rocking shaft, C, which is fixed on bearings, E, on the frame. On the end of this shaft is an oscillating arm, F, which is secured to the one end of the active cutter blade, K, as seen in fig. 1. The rocking shaft gets its motion by having two cams, D D, on it—one at each side, the one above and the other below. When the wheel, B, revolves, one cog acts upon the cam, D, at one side, driving it outwards, and the shaft in one direction, and then when that cog ceases to act upon the cam, the other cog on the other side acts upon the other cam, D, in a different direction, and thus continually the arm, F, gives the active cutters, when the wagon is drawn forward, a reciprocating motion. The lower cutters being stationary, they grasp and hold the grass to the action of the active cutters. N is the pole of the wagon, and I an angular front beam of the frame. We mentioned last week that measures had been taken to secure a patent, and that it had been tried on a large machine, which the inventor states "worked well." The grass, as will be perceived, falls behind the cutters, and it is as applicable to cut grain as grass.

Science Turned Criminal.

Perhaps one of the most original and marked signs of the times, says the London Patent Journal, is an application of science to crime—whether it be for the commission or the detection of it. The anæsthetic properties of chloroform have been already adapted to the art of burglary—some housebreakers having recently availed themselves of it as a means of stupifying an old lady into whose house they had entered. The precipitation of metals by the electrotype has been used to coat leaden casts of pennies with a pellicle of copper, while the ingenious process of anastatic printing, or of producing one engraved impression from another, has, within the last month, been applied to the indefinite multiplication of bank notes—and that with such consummate success, it is said that the ink of the signature alone enables the bank authorities

themselves to distinguish the forgery from the original.

Machine for Opening Oysters.

The Editor of the *Evening Post*, now travelling in Europe says that the old-fashioned way of rapping the shell of an oyster, forcing a knife into the body of the unfortunate animal, and fetching him to light with a "How many sir?" has been superseded in Paris by a machine.—"Mr. Baudon, with his *ecailleuses*, reforms the barbarities altogether. The oyster is laid over so gently in a groove—the screw is turned once, twice—*le voila*—the unconscious oyster is before you blinded by the light, without a gaping wound. There is no series of raps to warn the oyster of his doom—no portion of his castle is breached; but the vice is turned, the valves fly apart, and, blinded and bewildered, the live oyster is consigned to tickle your palate with his dying agonies."

Useful Receipts.

Carmine.

Boil 1lb. 4 oz. of ground cochineal and a very little of the carbonate of soda, in four gallons of soft water for 20 minutes; then take it from the fire and add 6 drams of alum, and stir the mixture for a few minutes, and let it stand for a quarter of an hour for the dregs to subside, then run off the clear liquor strain the sediment through a fine sieve or cloth, and then when cold add the white of two eggs with the sediment, fish glue or isinglass will answer as well as the eggs. The muriate of tin may be used instead of alum. The weight of the cochineal, may be reduced to any amount, to make a small quantity, if the proportions are preserved.

This is the most beautiful pigment used for fine painting—it can also make beautiful red ink and in fact, may be termed red ink powder. It is also the most beautiful pigment for heightening the blush on the cheek of the vain, the proud, the gay.

Method of Preventing the Fracture in Glass Chimneys.

The glass chimneys which are now in such extensive use, not only for oil lamps, but also for the burners of oil and coal gas, very frequently break, and not only expose to danger those who are near them, but occasion very great expense and inconvenience, particularly to those who are resident in the country. The bursting of these glasses very often arises from knots in the glass where it is less perfectly annealed, and also from an inequality of thickness at their lower end, which prevents them from expanding uniformly by heat. The evil arising from inequality of thickness may be cured by making a cut with a diamond in the bottom of the tube.

To Treat Cases of Drowning, &c.

Strip off the wet clothes, cover the body with other clothes, to maintain the heat, then wrap up in blankets and give warmth by bottles filled with hot water, placed in contact with all parts of the body; let several assistants rub the body with their hands; clear mucus from the mouth, hold the nose, and then suck out foul air with a tube, and blow in fresh air in the same manner. Foreign bodies are apt to stick in the throat, and cause choking. Pass your finger immediately down the throat as far possible, and you may often remove them. When a fish bone has struck in your throat, chew rapidly some bread into a mass, and and swallow it quickly, and it will often relieve the throat. The pulse may be best felt an inch above the root of the thumb, and about half an inch from the outer side of the arm. Where there is any doubt, apply your ear over the left side of the chest, as the action of the heart may sometimes be heard, even when the pulse can be scarcely felt. In the event of the clothes catching fire, roll the person in a carpet or hearth rug as quickly as possible, to stifle the flames, leaving only the head out for breathing.

Preparation of the Oxide of Antimony.

Mix in an iron vessel 15 parts of sulphuret of antimony in fine powder, with 36 parts of sulphuric acid, and let the mixture stand for about 30 hours, taking care to stir the mixture often, and apply a gentle heat. Sulphurous acid gas is then given off in vapor, which, when it has ceased, water is added, and also the carbonate of soda, which decomposes the sub-sulphate of antimony, and the oxide is obtained, which, when dry, is of a fine greenish color.

Sweet Flag Syrup.

After peeling, slice the roots, put them into cold water, and boil until the strength is reduced to the degree that is desired; then make a thick syrup of sugar and water, in which boil the flag, stirring constantly, until the syrup becomes candied and dry, the flag being completely coated and saturated with it.

Silk articles of dress should always be neatly folded before they are laid aside. When silk is creased it is not possible to restore it entirely.