New Inventions.

Coating Iron with Copper.

To coat iron with copper, as well as it has long been done by tin, has occupied the attention of many inventors for centuries. Their labors have uniformly failed of success. They have produced a mechanical union between the copper and tin, such as by the electrotype process, but for all truly useful purposes no good result was produced; no coppering of the iron by a chemical union was ever accomplished until within a short period, and a knowledge of this discovery has been known to but a very few. The discoverer is Mr. Pomeroy, of Covi gton, Ky., who secured, after no little trouble, a patent for the same on the 8th of last January, and his claim will be found in our list of patents for that week. We have seen samples of plate iron, (one of which is in our office), coppered and finished by Mr. Pomeroy's process. Unless the edge of the plate was seen, no one could tell that it was anything but a copper plate. The application of this discovery to the coating of iron, so as to make it more durable, and render its application to various branches of art more expansive, makes it one of the most valuable discoveries of this or any other age. The iron can be coated with any thickness of copper, and spikes for ship-building have been tested as we have been told, and found to answer as well as those made entirely of copper. As a matter of economy, then, this discovery will greatly cheapen the price of sailing vessels. For boilers, roofing, coating of pipes, covering iron with the precious metals, harness plating, &c., this discovery is singularly applicable, and will be the means of increasing the general comforts of the human race.

New Artificial Leech and Cupping Tube.

Dr. Charles Rodgers, a noted inventor, of Jefferson, Wisconsin, has invented a most ingenious little instrument as a substitute for the common cupping process, and as an artificial leech. In the first place the infeeted part of the patient, or on whatever part on which it is designed to operate, is perforated in one or more places by a lancet, impelled in a tube by blowing it like a Guinea arrow with the mouth. The artificial leech consists of a glass tube, which is set upon the wound, and by a small metal tube at the other end, all the air is exhausted, when the blood, &c., rises in the vacuum, and communication is then cut off from the atmosphere by an ingenious slide valve, which stops the mouth of the small metal tube. This invention is a neat improvement in the art of surgery. Measures have been taken to secure a patent.

Improved Granite Lifting Wedge.

Mr. Nathaniel J. Wyeth, of Cambridge, Mass., has invented a new wedge for inserting into the hole drilled in a block of granite, to be lifted by the crane or derrick. This wedge differs from those in use: it is more simple and easier managed. The hole to receive it has only to be drilled straight and the first thing inserted is a bolt with a ring for its head.—This bolt is made with flat upper sides to receive a spring clamping skiver, which is pushed down over it, and which binds the tighter in the stone, according as it may be drawn upwards. Measures have been taken to secure a patent.

New Brick Machine.

Mr. I. Z. A. Wagner, of Philadelphia, has invented a new rotary brick machine, which has been pronounced a great improvement over those now in use. We will be able to present an engraving of this machine in a few weeks.

Scientific Association.

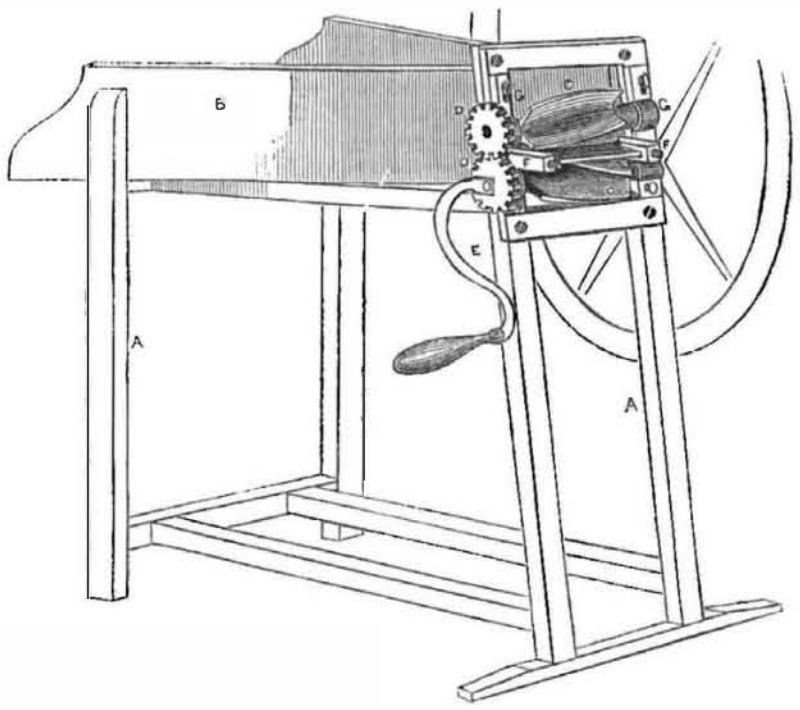
We intend to present the proceedings of the American Scientific Association in two more numbers, and we will give an abstract of the proceedings of the British Scientific Association in the beginning of our next Volume. The proceedings of these Associations are of unusual interest and importance.

The celebrated Liebig is about to visit the United States, for the purpose of lecturing on chemistry.

Self-Lifting Water-Wheel.

Messrs. John W. Kennedy & Ephraim Prentiss, of Plainfield, Conn., have invented and taken measures to secure by patent, what have been considered very valuable improvements in building a water-wheel frame in such a manner that it will lift itself above all backwater in the most simple manner. The frame is made with permanent screw-jacks in it, which can be geared at once with the driving pinion, and which, when set in motion, gradually elevates the wheel and its bearing frame above back water. The shoot and all the gearing is arranged in a very ingenious manner to move along with the frame, but still to connect with the branch gearing, without putting a tool in requisition for that purpose, or using a wrench to screw or unscrew a bolt.

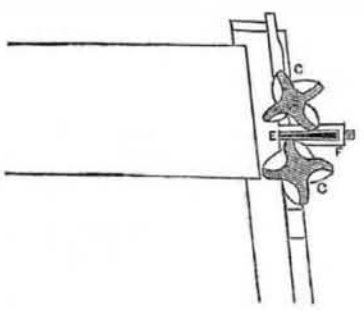
NEW STRAW CUTTER.--Fig. 1.



This machine is the invention of Mr. A. S. Macomber, of Burlington, Vt., who has taken measures to secure it by patent. The principle of the operation is the employment of a central stationary knife or cutter acted upon both above and below by two spiral bladed rollers, which feed in the straw, &c., to the knife and act upon it to cut it, partly on the principle of scissors.

Figure 1 is a perspective view, and fig. 2 is a longitudinal section, showing the action of the spiral rollers upon the inclined knife. A is the frame; B is the feed-box; C C are the two spiral bladed rollers, which are geared together by the cog-wheels, D D, which are driven by the crank handle, E. F F are the two side stocks to receive the knife or cutter, E (fig. 2.) The stocks of the knife are regulated by set screws to set it in its true position between the spiral rollers, so as to have the tangent described on one spiral blade by the knife opposite to the space between two spiral blades of the other, thus allowing the straw, &c., to be cut on both sides—above and below alternately. G G are movable bearings of the upper roller to set it at any required distance from the other to set them truly with the knife in the proper position for correct cutting. This machine is very simple. The spiral rollers may be said to embrace the character of feed and cutting rolls. They are made of cast iron, therefore they are not expensive. The knife is made of steel, and is not, as might be supposed, liable to be dulled by the action of the metal rolls upon it, on the contrary they act like a steel upon a knife, and in practice tend to keep the knife sharp. This is the information we have received respecting its action. Its simplicity at least, and the small expense of its construction, together with no parts that are obvious to us as liable to break; induces us to call the particular attention of our farmers and others interested, to it. More information may be obtained by letters addressed to Mr. Macomber.

Fig. 2.



Foreign Scientific Memoranda.

GOLD AND SILVER GLASS.

A new method of manufacturing ornamental glass has lately been discovered, which presents the brilliant appearance of highly polished gold and silver. This mode of "silvering" glass is a new invention, which is now being carried on by a company in London. The various articles are blown of two different thicknesses of glass throughout, and the silver is deposited upon the two interior surfaces of the double hollow glass vessel. The silver is deposited from a solution of that metal by the reducing agency of saccharine solutions; in short, the process is entirely a chemical one. The double hollow vessels are hermetically sealed, and thus the silver deposit is protected from wear and from atmospheric influences. The brilliant silver deposit being seen through the colored glass, communicates to that substance, in a curiously illusive manner, the appearence of being entirely formed of gold and silver itself. When the glass is cut, the brilliancy of the silver is heightened; and, on the other hand, when the glass is ground, the effect of frosted silver is produced. By staining, and the employment of variously-colored glasses, the effect is modified in a variety of ways; thus, with certain yellow glasses, the effect of gold is produced; with deep and ruby glass, colored metalic lustres, equal in the effect to the plumage of birds, are obtained. As every form into which glass can be blown is silvered with facility, the extent to which this beautiful invention can be carried is perfectly unlimited. The new process extends to flower vases, chimney ornaments, and in fact, to every article usually made of glass. For ornaments it presents all the lustrous brilliancy of highly polished gold and silver, at a great reduction of cost, and for imitating jewelry and illuminations it will far surpass anything known. In fact, the invention is at present quite in its infancy, and promises soon to fill the houses of the middle classes, usually destitute of brilliant ornaments, with cheap articles presenting all the striking appearance of costly plate &c.

PREVENTION OF SPONTANEOUS COMBUSTION.

An exhibition of a novel and ingenious kind took place last month in the Underwriters' room, in the presence of a number of shipowners, merchants and others, the object was to show how a fire may be made to destroy itself. The apparatus which is of the most simple and expensive kind, being adjusted, and its mode of action explained, the ignition of some cotton in a corner of the room was immediately detected by one of the indices, which was as instantaneously responded to by the exterminator. This self-acting apparatus we shall not pretend to describe; but from its simplicity, cheapness, and unerring certanty, we make no doubt it will come into general use. Unlike many scientific men who lock up their inventions until they get a certain remuneration for them, the ingenious inventor, Dr. Robinson, of London, has generously thrown this open to the public for their use, and, as he said on the occasion, with the hope that it may be the means of preserving property and valuable lives.

MARVELLOUS TELEGRAPHING.

A french paper, the Presse, gives some account of the experiments made with a new telegraph dictionary, the invention of M. Gonon. Despatches in French, English, Portuguese, Russain, and Latin, including proper names of men places, and also figures, were transmitted and translated, says this account, with rapidity and fidelity alike marvellous, by an officer who knew nothing of any one of the languages used except his own. Dots, commas, accents, and breaks were all in their places. This dictionary of M. Gonon is applicable alike to electric and ærial telegraphy, to transmissions by night and day, to maritime and military telegraphing-

[This looks like a French *faggot*.]

IRON SHIPS OF WAR

A Mr. Walter, R. N., has now proposed to the Lords of the Admiralty a plan by which all the defects of iron war steamers will be remedied, and which the gallant Admiral Sir Chas. Napier has lately so alarmingly pointed out. Mr. Walter proposes, by lining the ships throughout between the angle-iron with his composition, to make them perfectly safe. He says it will, 1st. Retain the splinters made by shot, 2d. Close the holes and prevent the water entering. 3d. Prevent concussion, and thereby the rivetted heads from being knocked off. 4th. Prevent corrosion of the iron by the adhesive material to be applied. 5th. Prevent the effects of heat in warm climates. 6th. From its elasticity, it will yield to the workings of the ship, and keep her tight and dry. 7th. From its being a non-conductor, it will remove the present difficulties with regard to the compasses. 8th. And it can always be reformed and transferred to another ship. The composition has passed the ordeal of 32-pounders at Woolwich, and is now to be tested by the guns of the Excellent at Portsmouth.

IMPROVEMENT IN THE METHOD OF LOWERING SHIPS' BOATS.

A model, showing a simple, but very important improvement in the method of lowering ships' boats into the water, in case of accident, has been exhibited during the last month. It is the invention of Mr. Charles Grayson, ship builder. The improvement consists in both ends of the falls, or ropes, being brought through the rail to a central winch-barrel, by which one man only, instead of two, is required to lower the boat, which necessarily descends fairly into the water.

BALLOON ASCENT.

Mr. Green, the celebrated æronaut, made a balloon ascent from the Vauxhall Gardens on horseback, on the 31st of July. His horse, however was only a small pony, weighing 200 lbs., and its feet were strapped together to prevent plunging. An immense concourse of people had assembled to witness the feat, but all were greatly disappointed by the diminutive size of the animal and the precautions taken to prevent the free use of its limbs. The exhibition did not compare with that of Parisian ascent.

[It takes the French to do their jobs grandly. Victor Vardale went up head downwards—he was a Frank.

The Duke of Sutherland, in Scotland, is carrying on the Irish system of evicting his tenants; he should be tied to a plank and sent adrift to the Mælstrom.