

## MISCELLANEOUS.

## Recent Foreign Inventions.

**METAL SHEETS AND COATING METALS.**—Mr. J. Davie M. Stirling, of Scotland, recently patented some good improvements in coating metals, &c. His first improvement consists in subjecting sheets or plates of iron to the action of polished rolls, care being taken that the pressure of the rolls be not so great as to make the iron more brittle. For this no rule can be given; some kinds of iron bear a much greater cold pressure than others. This process makes the metal smooth, and reduces the plates to a uniform thickness. The plates should be well cleaned before being submitted to the rolls. A second improvement consists in the application of a coating of zinc and tin to sheets of iron, after which the plates are subjected to the action of polished rolls. The sheet of iron is first coated with zinc, and then dipped into melted tin; the surface of the tin is covered with fat to prevent the metal from oxidizing. The sheet of iron should be put between the polished rolls after each coating. Another improvement consists in coating zinc sheets with tin. This is done by having the melted tin at as low a temperature as possible, and then drawing the sheet or sheets of zinc quickly through it. One, two, or more dips may be given. The sheets are rolled between polished rolls after every dip. The zinc plates are prepared to be dipped in the molten tin by immersing them in muriatic acid diluted with water, after which they are washed and heated nearly to the heat of the molten tin, when they are at once immersed quickly in it. Sheets of zinc thus tinned and rolled, are rendered more ductile and look beautiful. Another improvement consists in making a powder of calomine, to which is added a little borax, and all made into a paste and put on with a brush, between every two plates of iron, in piling; this forms a welding paste, and makes the iron stiffer and tougher, more especially cold short. This is something worth the attention of our iron manufacturers.

**RIFLES.**—Mr. Robert Adams, of London, gun-maker, has taken out a patent for making rifles with projections in the interior of the barrel instead of grooves. These ridges are like those in rifles after the grooves are cut. The bullets are cast with grooves on them. This appears to be as different from the common rifle as one needle is different from another, but, nevertheless, it has been patented. The forming of the bullet with grooves appears to be a good idea.

Another improvement of this inventor consists in furnishing the breech of a gun with a conical chamber of such a size as will contain the charge of powder, and projecting it into the bore of the gun in the central line of it. The bullet to be used is formed with a cavity at the back part, corresponding to the conical chamber and fitting upon it; not a bad idea.

**TELEGRAPH WIRE PROTECTOR.**—Mr. Dick, of Ayr, Scotland, has invented a most excellent casing for telegraph wires, which may be submerged. The protector is made of cast-iron, and is thus described:—A large bead of iron is threaded on the cord of telegraph wire, encased in gutta percha, then a perforated cylinder, like a bugle, is threaded on the string next the ball, then another bead is threaded, then another cylinder, and so on. The two ends of each cylinder are made concave, so as to receive the convex surface of the two balls on each side of it. Thus the whole string of beads and bugles make an iron tube, which protects the electric cord on which they are threaded, and it is at the same time so flexible, that a rope of it, massy enough to weigh 30 or 40 lbs. to the lineal yard, will double up in a loop, and can be wound round a man's hat. This is a most ingenious and meritorious invention, and a tube of this character must be perfectly able to protect all telegraph wires from being chafed on rocks by the action of the waves.

This invention, we believe, may be usefully applied to other purposes. For example, let there be tubes of gutta percha, covered with this flexible iron tube, sunk in the East River, what is to hinder the Croton water from being carried safely and cheaply over to

Brooklyn? We consider this a most important invention.

**SCYTHES.**—Mr. C. Hardy, of Low Moor, England, recently took out a patent for improvement in making scythes. He makes his scythe from a single bar of steel instead of iron and steel welded together. The bar of steel is drawn out under a hammer, at one heat; after this it is forged in width and thinned off to the edge. The edge is cut out by shears or a beam cutting machine. After this it is hardened. A furnace is used, and the air prevented from acting on the scythe; charcoal in an open fire will also do as well. The scythe is brought to a red heat, and then immersed in a mixture of suet and mutton fat, with equal parts of resin. On removing it from this it is dried in powdered charcoal, then washed in boiling water, and afterwards beaten in cold water; after this it is re-heated and annealed by covering every portion of it successively, until it attains a violet blue.

**ORNAMENTING LEATHER.**—F. M. East, of Bermondsay, England, has taken out a patent for an improvement, which consists in dressing, embossing, and ornamenting the flesh side of leather. Heretofore leather has been dressed and ornamented on the grain side. The invention applies to sumac-tanned sheep skins; the skins are shaved sufficiently close to cut out the flames, and render them uniform throughout, and after being immersed in warm water at a temperature of 120°, they are brushed on the flesh side preparatory to dyeing. To prepare them for dyeing, each skin is folded with the grain side inwards (contrary to the present process) and the flesh side out, and the edges are then sewn together; they are then scoured and "sweetened;" they are then dyed in the usual way, but it is better to use weaker liquors and give the skins longer time in them than is usually done. After dyeing, the skins are rinsed and dried. When they are dry they are "perched" on the flesh side, the perching knife should be dull, so as to produce a nap-like surface. Each skin is again folded as for dyeing, and passed through a solution of one part of size, by measure, dissolved in three parts of water. While the skins are wet they are strained on boards to dry, after which the edges are trimmed, and the surfaces bruised with cork to make them soft, the flesh sides being still kept out.

When the operation of embossing is to be performed, clean water is applied evenly upon the grain sides, and they are laid with the grain sides together, flat, for two days, they being covered to exclude the air, by which means the moisture passes through to act on the glutinous matter, and making it of service in causing a gloss to be made on the embossed or pressed parts of the surface, and it also produces a deeper tone of color on those parts. The embossing is done with heated rollers, at 220° Fah. Pigments and metals may be used as substitutes for dyeing; these will be fixed with the sizing.

We are indebted to our invaluable exchanges, "Newton's Repertory of Arts," "Patent Journal," "Mechanics' Magazine," and other London Journals," and to the "Genie Industriel," &c., of Paris, for the above, in substance.

**Boats on the Erie Canal.**

If the boats of the Erie Canal, five thousand and fifteen in number, were placed in line, they would reach from Albany to Utica, a distance of eighty-three miles. The distance achieved by this enormous fleet, in the year, is equal to three thousand six hundred voyages across the Atlantic—transporting more than three millions of tons, which is twenty-six times the quantity carried by the railroads which run along the banks of the canal. The value, in money, of the property transported by the canal in 1850, was one hundred and fifty-six millions of dollars.

**Demonism on Railroads.**

We learn from a Columbus (Ohio) paper, that as the Saturday night train on the C. C. and C. Railway was passing between Shelby and Salem, it encountered a telegraph pole placed across the track. The obstruction was thrown out of the way by the cow-catcher, and upon stopping, the road was found to be strewn with planks belonging to the Company. In one spot nine were placed in a heap

across the rails. Two men were seen last Wednesday, says the Louisville Journal, placing two bars of heavy railroad iron across the track on the Chattanooga Railroad, at a point where the embankment is fifteen feet high, and but for the fortunate circumstance of a gentleman catching the scoundrels in the act, a whole train of cars would have been thrown off the track.

Men are certainly far more cruel than the savage beast. He who puts an obstruction in the way of a railroad train is not fit to live among men.

**Steamboats on the Pacific.**

There are ten steamers plying between San Francisco and Stockton. There are ten, also, plying between San Francisco and Sacramento. The latter are, for the most part, of a larger size than those on the San Joaquin river, and make the trip of about 120 miles in from seven to eight hours. In the elegance of their accommodations and the luxuries of their larder, they might compare favorably with any passenger vessels in the world. There are ten other steamers plying from Sacramento to different places above that city. One year ago there was but one steamboat in Oregon, the Columbia; now there are eleven steamboats of different kinds running in the Columbia and Willamette rivers; not including the Pacific steamers Sea Gull and Columbia, running between Oregon and California. The United States will soon be mistress of the Pacific. Steamship lines will, in a few years, be running from San Francisco to Australia, China, and the East Indies. On that great ocean our go-ahead people will have room to strike out: the Atlantic is getting too small for us and other European nations; we need all the Pacific for ourselves.

**Coal for Locomotive Engines.**

Experiments have been made at Pittsburgh of the adaption of the coal of that region to the purposes of fuel for locomotives. Mr. Ellwood Morris, engineer of the Chartiers Railroad, communicates an interesting statement upon the subject to the Pittsburgh Gazette. He finds by his experiments that an engine of fifteen tons weight, with a tender containing two tons of coal, and drawing the usual train of freight, requires but one bushel of coal fuel per mile, the cost of which is but four cents. Only sixty bushels of coal were used in firing up, running, and standing under steam, while performing the distance of sixty miles. Pittsburgh coal, of the Chartiers Company, was used exclusively.

Why do not some of the railroads contiguous to the coal mines, use coke instead of raw wood. This is the only fuel used on English railroads. It emits no sparks or smoke.

**New Comet.**

A new and bright comet was discovered on the 22nd of last month, at the Observatory of Baron Senftenburg, in Bavaria, by Mr. Brorsen. It is stated to have a brilliant nucleus, and a conspicuous double tail, one branch being turned towards the sun, which is a rather unusual direction. Mr. Brorsen compares its appearance to that of the bright comet discovered in the spring of 1847.

**Suspension Bridge in New Brunswick.**

Mr. Wm. Serrel, C. E., of this city, is erecting a suspension bridge near St. Johns. N. B. One of the towers is already completed and the other on one side is approaching towards completion. It is expected that the bridge will be finished about the middle of next summer. Owing to the severity of the winter at St. Johns, the work cannot be proceeded with as in our climate.

**Prizes Awarded.**

We are glad to learn that our friend A. D. Brown, of Clinton, Geo., obtained four prizes at the late fair in Macon, for the best cotton press, horse-power, gin-saw filer and cheese-press.

Our readers will find an engraving of the cotton press in Vol. 5, Scientific American. Mr. Brown is a good mechanic, and deserves the favors bestowed.

**Discovery of Coal in Oregon.**

A valuable mine of anthracite coal has been discovered in Charles River, about four miles from Astoria, by a man named Shein. The vein is said to be nine feet wide and three feet thick, and was discovered in digging a well.

**Decision Under the Patent Laws.**

The case of Uriah A. Boyden vs. Edmund Burke, late Commissioner of Patents, was taken up in the U. S. Circuit Court, at Washington on the 17th inst., and is fully reported. The action was brought to recover damages alleged to have been sustained in consequence of the refusal by the Commissioner to furnish the plaintiff with certain patents then on file in the Patent Office. The fourth section of the act of July 4th, 1837, requires certified copies of the records in the Patent Office to be given to any person applying for the same, at a charge of ten cents per folio. In this case it is alleged copies were refused solely on the ground of Mr. Boyden's repeatedly insulting conduct toward the Commissioner. After the plaintiff's witnesses had been examined, the counsel for defence moved the Court to instruct the jury that upon the whole evidence the plaintiff was not entitled to recover. The instruction prayed for was granted on the ground that the whole section should be taken together, and that the intention of Congress in framing that whole section, was to make certified copies as high evidence as originals. The originals could only be required in cases in Court, and the section clearly intended that any person entitled to call for the originals could demand the copies. There was no evidence in this case that the plaintiff had any right to call for the originals, and therefore had no right to demand the copies.

To this ruling the plaintiff excepted. The jury found for the defendant, and judgment was entered accordingly.

**Petition for Extension of Patent.**

On the petition of Barnabas Langdon, of Buffalo, New York, praying for the extension of a patent granted to him on the 9th January, 1838, for an improvement in machine for planing shingles, for seven years from the expiration of said patent, the 9th day of January, 1852.

It is ordered that the said petition be heard at the Patent Office on the seventh day of January, 1852, at 12 o'clock M.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

THOS. EW BANK, Com. of Patents.

**New York Exhibition.**

We see that some of our English exchange papers are still talking about an Exhibition of Industry in New York. The speculation will be a commercial one entirely, and we suppose will be managed by the late U. S. Commissioner, who appears to have a keen facility that way. We hope the scheme will be carried out. It is asserted that a large building is to be chosen for the purpose in the centre of our city about Canal st., near the great railroad emporiums, and that the goods and articles will remain under bond until sold. The goods are to be taken direct from London, and a great number of works of art are to be sent over, among which the celebrated Amazon, by Kiss, is to figure conspicuously. No American manufacturer is to take part in it—all the works are to be foreign. The price of every article is to be attached to it, so that "he who runneth may read." The Exhibition is to open on the 15th of April, 1852; so it is said, and we hope it will; we only state what is a common rumor, especially on the other side of the Atlantic. Mr. Riddle and Mr. Stansbury arrived in this city by the Atlantic. The former was United State Commissioner at the Fair, the latter took charge of the goods in the frigate St. Lawrence. Mr. Stansbury, we understand, has collected a great deal of excellent information which will be published in a book. He is qualified to do this well.

**Shingle Machine.**

Two weeks ago we requested, from a correspondent, any one who had a shingle machine—one which could split, shave, and finish the shingle at one operation—to give us information. Mr. C. B. Hutchinson, of Waterloo, N. Y., can furnish any person with a machine that will perform these conditions.