MISCELLANEOUS.

Lectures on Ships and Steamers.

John W. Griffiths, Esq., author of the excellent work on Naval Architecture, has been delivering lectures before the Maryland Institute. His subject, on Tuesday evening, last week, was "The Glory of Mechanism, as developed in Ship Building." The Baltimore papers speak in the highest terms of Mr. Griffith's lectures; the ship carpenters of that city are anxious to have them published. He had with him a splendid model of a side wheel steamer, made by himself, which has been exhibited at the World's Fair, where it attracted much attention. The audiences were very respectable, as are all the audiences which attend the Institute. There were a great number of ladies present, who were exceedingly pleased, for Mr. Griffiths is a practical mechanic, understands his subject well, and a man who does this can render his subject plain to all. He is possessed with a natural eloquence, and this gives zest to his scientific delineations of water-lines, wave-lines, &c. He stated that our naval architecture would have been a higher state of excellence but for several serious drawbacks, which he fully explained. Among them is the want of protection of the inventions of the Marine Architect by the patent laws of this country,—a great truth. Mr. Griffiths had quite a number of models with him to illustrate his lectures.

It would give us pleasure to know that a course of lectures were to be delivered in New York by Mr. Griffiths—a course of such lectures should be delivered for the benefit of our young ship-carpenters, every winter at least.

Address before the Maryland Institute.

We are indebted to Wm. Prescott Smith, Esq., Cor. Sec'y of the Institute, for a copy of the Hon. J. P. Kennedy's Address at the opening of the Fourth Annual Exhibition of last October. Mr. Smith has done us a great favor; the Address is adorned with a lithograph of Baltimore in 1752, containing about fifty houses, and looking like a large sheepfold. What changes have taken place since then. The lecture is a history of Baltimore. Long may it be distinguished for its people, its clippers, buildings, and its Institute for the "Promotion of the Mechanic Arts."

Trial of Locomotives at Lowell.

We are indebted to our friends for a copy of the Report of the Committee on the trial of the Locomotive Engines, which took place at Lowell in October last. It is a valuable report, yet it would have been far more valuable had it described the peculiar difference of construction, (if any, and we have been assured there was) of the engines. We quote two extracts from the Report, which are worthy of the attention of every person connected with railroads, "It is apparent, even to a casual observer, that the railroads have increased in a greater ratio than the amount of business they can do. The greatest possible saving, therefore, should be made in all the details of working and maintenance, and that the weight of the engines should be reduced, and their power increased to the greatest limit consistent with the proper durability of the machines. We trust the experiment will be followed up by those interested, until a series of observations, properly made, may enable railway managers to judge with certainty, having actual and not theoretical knowledge for their guide."

We indulge the same hope, and in the future experiments which may be made, we hope that the strictest possible attention will be given to the boilers of the engines.

The Young Astronomer.

Mr. Langdon, the young astronomer, finished a course of lectures last week on Astronomy, before the Maryland Mechanics' Institute. These were the first lectures he ever delivered—his *debut*, and have done him credit. His lectures were well received..

An American club has been organized in Paris. Its object is to furnish an agreeable place of re-union for Americans.

About $30,000 has been subscribed to build a fire-proof building for the Historical Society of New York.

Recent Foreign Inventions.

DYEING.—Mr. Brazil, of Manchester, Eng., recently secured a patent for improvements in dyeing.

The first part of this invention consists in using soap or saponaceous matter in water, in order to facilitate the extraction of the coloring principles from madder, garancine, or other dye stuffs in the act or process of dyeing. The proportion which the patentee prefers to employ, are half a pound of soap (palm oil soap by preference) to every 10lbs. of madder, with the usual proportions of ground chalk and water. It is recommended to enter the goods to be dyed at a temperature of about 70° to 80° Fah., which should be gradually raised to 180°, when the goods are withdrawn. Or, instead of using the proportions of soap above mentioned, almost half or two-thirds of the soap liquors used for the first soaping of the first fabrics may be employed, and in both cases the madder should be added before entering the fabrics in the dye-beck.

The second part of this invention consists in using a solution of borax or borax combined with soap, for the purpose of more readily extracting the coloring principles from madder and other dye stuffs while in the act of dyeing. When borax is used alone, the proportion is ½ lb. to 12 lbs. of madder, and when soap and borax are employed together a quarter of a pound of each are added to 10 lbs. of madder, the usual quantity of ground chalk being introduced in either case.

The third improvement consists in saturating piece goods previous to applying a mordant, with a solution of soap in water, which must be dried in the goods before the mordant is applied. For this purpose the patentee makes a solution of 1 lb. of soap in 12 gallons of water, which will be a proper strength when the goods are entered in a dry state; but when the goods are entered direct from the bleaching vat in a wet state, a liquor of greater strength will be found necessary. The fabrics having been submitted to this operation, are dried and then dyed in the usual manner. Another liquor adapted for the same purpose is composed by adding to the soap water from the soap vat as much resin as it will readily dissolve; this liquor is used in the same way as the former one. A third liquor consists of water to which has been added for every six gallons one pound of borax with as much resin as it will conveniently dissolve.

The fourth part of the invention consists in using a solution of soap in water, or of borax alone, or combined with soap, in order to facilitate the extraction of the coloring principles from dye-woods and dye-stuffs, the quantity of the above ingredients employed depending on the nature of the dye liquor required to be produced, and the dye-wood which may be under operation.

SILVER.—Mr. Alex. Parkes, of Birmingham Eng., recently obtained a patent for the following method of separating silver from other metals:—

For ore containing 14 oz. of silver to the ton, one part of zinc to every 100 parts of ore will be found a good proportion. This proportion must be varied with the quantity of sliver present: thus there will be required

	Silver.	Zinc.
For a ton of lead ore containing	14 oz.	22·4 lbs.
Ditto	21 oz.	33·6 lbs.
Ditto	28 oz.	44·8 lbs.

The lead having been melted, and its temperature raised to the melting point of zinc, the zinc is introduced, and after being well mixed time is given to allow the zinc and silver to rise to the surface, and when the metal begins to set, the zinc is skimmed off, and placed aside for the purpose of having the silver extracted from it. The lead which has been thus desilverized will be found to contain a small proportion of the zinc, and as this would act prejudicially on the metal, it may be removed by running the lead into a reverberatory furnace, and maintaining a low heat until the zine is oxidized and rises to the surface; the lead is then tapped off, and the oxide of zinc removed from the furnace by any suitable means. This operation will occupy about two hours and a quarter, supposing the quantity of lead to be about three tons and the surface about 25 to 30 square feet.

In order to separate the silver from the zinc and lead with which it is combined, it will be necessary to concentrate the alloy, and this is done by placing it in an iron pot perforated at the bottom, and applying a low heat so as to melt out a portion of the lead; the lead which is thus melted out, may be melted again with a fresh quantity of ore to obtain any portion of silver which it may still contain. The concentrated alloy may then be submitted to a low heat, so as to oxidize the zinc and admit of its being dissolved out by muriatic or sulphuric acids, leaving the silver to be subsequently treated in the ordinary manner. Or it may be distilled in a retort, such as is used in the manufacture of oxide of zinc, so as to obtain the zinc in the metallic state, and admit of the silver being separated by cupellation from the small quantity of lead and impurities remaining combined with it. When performing this distilling operation, it will be found advisable to add to the zinc and silver alloy a small quantity of carbon to reduce any oxide which may be present.

The above are selected from our valued cotemporary the London Mechanics' Magazine.

Anthracite, as a Fuel for Locomotives.

This coal has never been properly managed. The error has always been in making the fire-box too wide. It should be made nearer of the proportions of the cylinder of a common stove, with depth of coal to retain the heat and keep it under full head when the coal is ignited, with dampers to regulate the heat. Start the fire with sufficient wood to get it quick under way.

When a body of coal with depth to it is once heated, you have an agent, with power at your command, as completely and controllable as the lightning in the hands of the telegraph agent.

The depth of fire-box is required, and the want of it the whole cause of much of the failure in the use of anthracite heretofore, I am aware. A CONSTANT READER.

West-Chester, Feb. 5, 1852.

[Philadelphia Ledger.

[The above deserves attention, because it contains a statement generally admitted to be wrong. The cylinders of common stoves, it is generally believed, are more economical in respect to fuel and more easily managed when of great diameter. The reducing of the width of the fire-box of a locomotive, if this is true, would rather be detrimental than beneficial. And so far as our experience is worth anything it would be so. There is an error, however, in making fire-box cylinders, or furnaces for burning anthracite coal, too deep, of this we have had personal experience, and on one occasion in adapting a boiler furnace to burn anthracite (wood was employed before), we had to reduce the depth of the space from the furnace bars to the bottom of the boiler. two-thirds.

English Patent Law.

On the first of last month, Jan., an act came into operation to simplify the passing Great Seal grants. This bill originally contained a clause exempting Letters Patent, (this is the way governments always treat inventors) but it was amended to include Letters Patent. It takes off fees to the amount of £20, ($97). This reduces the cost of an English patent, but not one for Scotland and Ireland. Oh what a set of Legislators the English Parliament is made up of.

Arabia Steamship.

By the last news from Europe, it is stated that the splendid new steamship Arabia, which has been built for the Cunard Line, and which is now in Glasgow, Scotland, getting in her engines, by Robert Napier, has been sold to the West India Mail Company, to supply the place of the ill-fated Amazon. It is also reported that the same Company wish to purchase the Asia. The Cunard Co. will still have five ships left, and the Persia, now building, will be ready in a few months.

Steam Boiler Explosions.

This subject has been brought before Congress, and a plan of Mr. Guthrie, Engineer of the Chicago Waterworks, has been presented, and spoken of very highly. We hope that Mr. Guthrie's plan will receive the attention of Congress, and end in something more than a mere report on the subject.

On the Manufacture of Eau de Cologne.

This well-known perfume is a solution of different volatile oils in pure strong spirit. The principal condition for the preparation of a fine water, is the employment of a spirit quite devoid of fusel oil (oil of grain), and of all foreign odor.

In respect to the proportion and kinds of oils employed, we have numerous formulæ. It is of importance that these oils, which are usually purchased of the druggists in the south of France, should be of the finest quality, and that no oil should be used in sufficient quantity to allow of its peculiar odor being recognizable in the mixture. The oils are to be dissolved in spirit, and the mixture allowed to stand for some weeks (or still better, for some months), to improve its odor. Distillation does not affect this: on the contrary, a fresh distilled water requires a much longer time. Distillation is indeed objectionable, for, on account of the greater volatility of the spirit, the oils, in part, remain behind in the still. Distillation can improve the odor only when the less volatile oil has been used in too large a quantity, and we wish to obtain a better proportion. Before all things, we should employ a pure, old, strong spirit, and not too much of, nor a too strong smelling oil.

The different sorts of volatile oil which are obtained from varieties of citrons, oranges and lemons, in different states of maturity, are the most important, and therefore it is highly necessary to ascertain their purity and goodness.

Foster gives the following formula for the preparation of a fine eau de Cologne: take of rectified spirits, sp. grav. 0·855, 6 wine quarts; of the essence of oranges, bergamot, citron, limetta, and petits grains, each one ounce; of the essence of cedro, cedrat, Portugal and neroli, each half-an ounce; oil of rosemary, two drachms, and oil of thyme, one drachm.

Otto gives the following formula for a good eau de Cologne; rectified spirits, sp. grav. 0·846, 200 wine quarts; oil of citron, 4 lbs.: oil of bergamot, 2 lbs.; oil of neroli, 10 oz.; oil of lavender, 8 oz.; oil of rosemary, 4 oz.; and spirit of ammonia ½ oz.—mix.

The Locusts.

Dr. Gideon B. Smith, of Baltimore, the eminent entomologist states that the seventeen year locusts will appear this year in Connecticut, east of the river, and in portions of Massachusetts; they will appear in great numbers about Fall River. Where forest and other hard wood trees grew seventeen years ago, the larvæ of these insects may now be found in all the places where they will appear in summer, by digging two or three feet in the ground. They will be found singly in their cells in a half torpid state. He says—'About the first of May they may be discovered by merely shaving off the top soil with a spade, when their chambers will be found completed near the surface of the earth. It would serve the cause of science if some one in those districts would take the trouble to make these researches, and also to watch their first appearance above ground, which happens several days before any notice is attracted to them.

I expect they will first begin to emerge about the first of June."

He believes that some of them may appear in Rhode Island adjacent to Fall River. See an article from Dr. Smith, on this subject, with an engraving on page 212, Vol. 6, Sci. Am.

During the past year, the Library of Harvard University has received the addition of 1,616 volumes, and 1,539 pamphlets. Nearly half of these were donations from individuals. The purchase of Professor Jacobi's Mathematical Library, of Berlin, by Mr. George Bond, for the College, is mentioned as a very important acquisition, as this library was considered one of the most complete private collection in Europe.

A lighthouse is to be erected and completed on the Seven Foot Knoll, at the mouth of the Potapsco river, by the first of July next. It is to be furnished with the French Lenticular lighting apparatus, and is expected to be the most brilliant light on the Chesapeak. Application will be made to have a fog bell attached to it.