for feet, fastened rigidly to the legs. The legs are joined to the feet at the middle, so that the heels are as long as the front part of the foot; and to keep the figure from toppling over side-wise, a flat bar extends laterally from each foot.

To give the appearance of bending at the knee a toggle joint is attached to the front part of each leg, but this has nothing to do with the propulsion of the automaton.

There is nothing in the movement analogous to that of the human leg. One foot is raised and then advanced, the whole leg moving forward, not swinging, with the foot, each foot being alternately the pedestal or base upon which the body rests.

The fuel employed is some fluid hydrocarbon, and the boiler is concealed in the body. The smoke escapes through a hole in the crown of the hat. When the steam man is about to take a walk, his valet takes a pair of pinchers and after opening the throttle valve, seizes with the pinchers the end of a shaft which protrudes just below the abdomen, and giving it a partial turn, a most remarkable sound resembling the rumbling of wind in the bowels commences, and the steam man sets out upon his travels with a rather unsteady gait, and with extremely short steps. When he reaches the end of his limit the steam is shut off, and he is turned about face by his faithful attendant, and retraces his steps in the same manner as we have described.

On the whole, the steam man is a curious automaton, and very much more satisfactory than his predecessor exhibited two or three years since in this city, who could only stand upon fixed crutches, and kick like a spunky child suffering for a spanking.

## WASHINGTON CONSIDERED AS A PLACE FOR AN EXHIBITION.

Hallet Kilbourn, Esq., has sent to us a copy of the interesting speech delivered by him at Lincoln Hall, Washington, in support of the somewhat melancholy project of holding an "International Industrial Exhibition" in that city.

Our readers are probably aware that Washington is situated on the Potomac river, about twenty-five miles above Mount Vernon. It is principally celebrated for being the capital of the United States, and was selected for that purpose by the "Father of his Country," in view of its retired and almost inaccessible situation. A railroad communication has, however, been opened since the death of Gen. Washington, and it is now much easier than formerly to reach the Federal Capitol, though it is still somewhat off the line of public travel.

In speaking of the characteristics of Washington city, Mr. Kilbourn refers thus to the "Market House:"

"Probably no one prominent object in the city commands so many opprobrious epithets, and is so universally conceded a nuisance, alike by citizens and sojourners, as the group of old sheds fronting five hundred feet along Pennsylvania avenue, and styled the Center Market. Mark Twain, in one of his lectures, said that, in all his travels around the world, visiting objects of interest in Christian and heathen lands, his national feeling was constantly buoyed up by the recollection that, at the national capital of his own proud Republic, there existed a structure whose equal was not to be found on the face of the habitable globe—the Center Market-house, on Pennsylvania avenue."

It seems, however, that four years ago the city authorities proposed to erect an elegant structure on the premises, and present a building, which would be a credit to Pennsylvania avenue, clean and commodious, for market purposes. Plans were adopted which would require the expenditure of several hundred thousand dollars, and the money was appropriated by the city. After the erection of the foundation, at an expense of several thousand dollars, Congress suddenly realized the fact that the old white-washed land-mark (and guide-post for meandering representatives) was about to disappear and a permanent structure to be erected in its place; whereupon the House stopped this outrage on civilization by unanimously passing a resolution putting a stop to the job.

It seems to us, therefore, in view of the facts that the idea of Mr. Kilbourn, or any other man, that Washington should have an "International Industrial Exhibition," borders a trifle upon the absurd.

## ARTIFICIAL STONE.

We have heretofore expressed the opinion that nothing whatever can take the place of good stone for building purposes. Nothing else is so durable and nothing else is capable of producing such architectural effects. The only drawback to its more general use is the expense attending cutting it into the required forms.

As the constituents of building stones are easily ascertained and well known to chemists, it is somewhat remarkable that long before this the art of making artificial stone has not been brought to perfection. Yet, if we may judge from the great and increasing variety of processes, patented and otherwise, which now press their claims upon public notice, the time is ripe for the introduction of any process which can demonstrate practically its capacity to fulfill the requirements of the case.

These requirements are not numerous, yet they have been hard to attain, as the history of the failures which have marked the course of invention in this field, sufficiently shows. The Ransome process, successful in England, has not proved so in America yet, though it cannot be said to have had a fair trial here.

We doubt, however, that it will ever compete with cheaper American processes, by which some excellent and cheap building stones are produced.

We have for the last two years availed ourselves of every opportunity afforded us to examine and test specimens of artificial stone, and have met with many kinds which have very little merit. Some however are really good stones, and as such must in our opinion come largely into use.

We notice in the *Art Review Advertiser*, a new journal published in Chicago, that a stone has been introduced there called the Frear Artificial Stone, which is described as fully equaling brown stone both in appearance and endurance. A very handsome residence has been erected on one of the fashionable avenues of that city of this stone, the sidewalk and fence being also of the same material.

The nature of the process is not detailed, in fact it is generally thought advisable by manufacturers of artificial stone to give as little publicity to their processes as possible, in order to prevent infringements.

We have latterly had our attention called to a kind of artificial stone---an advertisement of which will be found in another column—manufactured by Mr. Herman A. Guenther, of Eighty-sixth street, between Third and Fourth avenues, in this city, which we find to be a very excellent stone. In fact we have not met with anything which in our opinion is superior to it in solidity or beauty of surface. It chips with the chisel almost as hard as blue lime stone, and is almost as dense.

We have been shown specimens of this stone which have been laid into sidewalks, and made into a continuous surface of great strength and beauty. Our experiments with it lead us to believe that it will sustain a crushing weight of 150 tuns to the square foot, and the action of water hardens rather than softens it.

It has the great advantage that it may be laid up in continuous walls, leaving no cracks or crevices; a property which has given it considerable request for breweries, malt houses, linings for water tanks, and cellars into which water flows. It may also be molded while in the plastic state into any desired ornamental form, thus saving the expense of cutting. Any desirable shade of color may also be given it except, we believe, pure white.

The material sets very quickly and the stone can be made very cheaply. We believe the Frear stone and other kinds of artificial stone will find it somewhat difficult to give better results than those secured by Mr. Guenther, who is the assignee of the patent which covers the process. We have said thus much as a matter of simple justice to what we deem a meritorious invention, and would advise those interested to examine the stone in question, at the works above mentioned.

## THE YACHT RACES.

Last year the American yacht *Sappho* was badly beaten in England by the British yacht *Cambria*. The owners then came to an agreement for additional races this year, the *Sappho* people being very confident that their boat was the fastest sailor, and attributing their defeat to breakage of spars. Three races have been arranged for the present year between the above yachts, the first of which took place on the 10th May, when the *Sappho* came off victorious, greatly to the delight of the Americans. The race was from Cowes, for a distance of 60 miles to windward, up the English Channel. The *Sappho* soon beat the *Cambria* out of sight, so the latter gave up the contest, admitted defeat, and returned to port without having sailed to the stake boat. Two races yet remain to be sailed—one "sixty miles dead to windward and back," and the other a triangular course of sixty miles, twenty miles on each bounding side of the equilateral triangle. The *N. Y. Herald* thus describes the rival vessels:

### THE CAMBRIA.

The *Cambria*, schooner, 248 tuns, New York Yacht Club measurement, and probably the fleetest of the British yachts, was launched in May, 1868. She is a fine type of the deep and narrow English model, and in external appearance bears a resemblance to the stiffness and stability of a Cunard steamer. It can hardly be said that the *Cambria* is as graceful and charming in her *pose* upon the water as the majority of American schooners, and this is simply because the English are willing to sacrifice anything to secure the full embodiment of their ideas as to speed. Her dimensions are—

| | Feet. |
|---|---|
| Length (from stempost to sternpost) | 108 |
| Beam | 21 |
| Depth of hold | 11 |
| Draft of water | 12 |
| Mainmast (hounds to deck) | 61 |
| Foremast | 56·6 |
| Main boom | 61 |
| Main gaff | 33·9 |
| Fore gaff | 25 |
| Bowsprit (outboard stem) | 35 |
| Maintopsail | 35·6 |
| Foretopsail | 32·3 |
| Maintopsail yard | 32 |
| Foretopsail yard | 29 |

She is a keel schooner, substantially built of oak, with teak topsides. Her interior fittings are remarkably beautiful, rich, and in good taste, and the wainscoting is finished in polished oak. On the principle upon which she was built the *Cambria* is a most perfect triumph, and no one need doubt that she is the finest schooner in Great Britain. All of the delicate niceties employed by English yachtsmen in ballasting, sparring, and canvasing, have been tested by Mr. Ashbury, who, with a spirit which does credit to the most fascinating of all pastimes, has done much to develop yachting among his own countrymen to its present high status.

The *Cambria* has twenty-one tuns of ballast smelted and run into her timbers, and she has also four tuns of lead bolted to her keel. Under sail she spreads a vast area of canvas, and works in the wind with the ease and facility of a weather vane. It is by her qualities of being sharp and quick in stays, of being close to the wind, of making good time in light airs that yachtmen claim that she is one of the fastest schooners in the world. By the wind—that is, close-hauled—she has gaff topsails bent to the ordinary spars; but in sailing free she has much longer and lighter and more flexible yards aloft, and the sail of lighter canvas, of course, clubs out a considerable distance. Her bowsprit is a very peculiar spar, and with the jibboom and flying jibboom is all in one stick and rigs in and out at the option of the sailing master. Of course it is ugly in appearance, but the nautical advantages claimed for it are many and doubtless well founded.

The *Cambria* has had a brilliant and eventful history. She has been the victor in many contests, and her bold and gallant owner and commander has sailed her in most all the seas that wash European shores, and has but recently returned from his cruise up the Mediterranean. She first won fame upon June 2, 1868, when she came in first, with the *Egeria* and *Fleur de Lis* as competitors; but in this contest she failed to win the prize because she had to give time allowance. She also figured with evidences of the finest qualities on the 17th of June, 1868; on the 30th of June, 1868; on the 6th of August, 1868; and on the 11th of August, 1868.

On the 26th of August, 1869, she beat the *Sappho*, her competitor yesterday, and in the same race, three fast English yachts—the *Aline*, *Oimara*, and *Condor*.

After these victories alterations were made in the *Cambria* to make her more sea-worthy. She was padded forward, her masts were bored, and the weight of her keel was diminished. Besides, on the occasions named, the *Cambria* has won golden laurels, especially upon beating to windward, in a trial of this quality with an English cutter (corresponding to our American sloop), in which she was again the victor. This is her *forte*. During the present season the *Cambria* has been given more ballast, her bulwarks have been raised forward and her scuppers have been much enlarged. She is now, according to the dispatches in her best trim, and she will have every American and English eye bearing upon her during the season of 1870.

### THE SAPPHO.

All will remember the keel schooner *Sappho*, 274 tuns New York Yacht Club measurement, owned by that thorough yachtman Mr. William Douglas. She is one of the finest, ablest, and fastest of all American or English yachts. Her dimensions are:

| | Feet. |
|---|---|
| Length of keel | 113 |
| Length on water line | 123·3 |
| Length on deck | 125 |
| Length over all | 154·8 |
| Beam | 27 |
| Depth of hold | 11 |
| Foremast | 91·20 |
| Mainmast | 89·6 |
| Maintopmast | 54 |
| Foretopmast | 50 |
| Main boom | 76 |
| Main gaff | 40 |
| Fore gaff | 36 |
| Head booms (outward) | 30 |

The *Sappho* draws twelve feet of water aft and seven forward, carries a squaresail, a staysail, two gaff-topsails, and five lower sails, and has great buoyancy and stability by form, both of which comes from a good model and sixty-five tuns of ballast, stowed with fine judgment.

In her model, as can be seen from her comparative beam and hold, respectively 27 and 11 feet, she carries out the American idea of construction. Her bows are very long and fine and her lines forward are nearly straight. She has very little concavity. One peculiarity forward is her bowsprit, which is built in her, thus securing one-third more strength than by the usual plan, with one-third less weight. A very severe test of this improvement has shown it to be of great value, and as an experiment it is very successful.

Coming aft an examination of her lines reveals the excessive swell in her bilge lately increased by Mr. Douglas by "hipping"—that is, by planking on the original framework and augmenting her width below the water line. These alterations took place between the fore and main mast and certainly give the *Sappho* more buoyancy under the large cloud of canvas which she spreads in all weathers; but it is doubtful if she has gained in speed—at least this is the impression of her former owners. Perhaps it might be well to say she has little to gain in this particular.

From the fattest part of the bilge the schooner's sides hollow with considerable concavity, and terminate in a rocker keel, 36 inches deep. She has a very fine and light stern, peculiar to herself, and is quite hollow aft. Her stern is all dead wood and drags no water, leaving a narrow wake. She stands up well, is remarkably quick in stays, is well sparred, and nearly as strong as crystallized rock: built of oak, locust, and hackmatack; finished on the interior with a hard wood cabin, and in every respect a graceful and elegant craft. She has few superiors or equals.

The amount of sail she spreads is incredible, and in light airs there is not a square inch of area within the limits of the stays through which the sky is visible.

## Death of Franklin Peale.

Franklin Peale, Esq., whose decease occurred May 5th, in Philadelphia, was a highly esteemed citizen, and extensively known through the public positions he formerly held, and his connection with various scientific, musical, literary, and charitable societies. For a number of years past he has been President of the Pennsylvania Institution for the Blind. Mr. Peale was the son of Charles Wilson Peale, himself an eminent Philadelphian, and the founder of the widely known "Peale's Museum." He was an associate of his father in the organization, and subsequently was engaged in the mainten

ance and supervision of that extensive collection. In 1836 he was appointed Melter and Refiner in the United States Mint, and in 1839 was promoted to be Chief Coiner of that institution, succeeding the venerable Adam Eckfeldt. Mr. Peale served until 1855, and during his sixteen years of service exerted his skill in introducing the steam coining apparatus and the model steam engines which have always been so much admired by visitors to the Mint. He was also instrumental in bringing into use the French medal lathe, which, by subsequent improvements, has become of great use in executing the original dies for our national coinage. He traveled extensively in Europe, visiting the various government mints and private medal establishments, and made effective use of his information in the reorganization of the Mint, rendered necessary by the removal of the establishment from the dilapidated and confined quarters in Seventh, below Arch, to the handsome building in Chestnut street. His taste in the fine arts was also of great assistance in the change of the designs on the coin, which took place in the early part of his duties as Chief Coiner. Mr. Peale was also some time President of the Hazelton Coal Company. He was a prominent member and officer of the American Philosophical Society, the Horticultural Society, the Musical Fund, and various other scientific and social societies which have exercised beneficial influences in favor of the public. He died in his 75th year, greatly regretted.

### Filing a Flat Surface.

The following practical and valuable remarks from the *Irish Builder*, will be of use to many of our amateur subscribers: "Filing consists in the paring off of very small shavings of metal by means of the numerous teeth of the file. It need scarcely be observed that the coarser the teeth the larger will be the shavings removed, and that with sufficient force the quicker will the work be accomplished; hence it is customary to use coarse files for the greater part of the work; but as coarse files make deep scratches, the work is finished with smooth files. The file is considered one of the most difficult tools to use with accuracy; this, perhaps, is owing to the want of a sufficient guide by which to regulate the direction of the file, the direction of the file depending altogether on the hand for a guidance. In filing a flat surface on a piece of iron, unless there is some skill or care used in the operation, the two exterior edges are apt to be greatly pared away, so that that part of the service about midway between them will be least worn down. It will be clear that the two edges are supported with the metal at only one side, whereas any other point on the surface between these two is supported with metal on both sides; then as the file is drawn backwards and forwards nearly its own length, it is apt to hang over these corners and to file them off. The work is held in a bench vice, in such a position that the file will run in a horizontal direction nearly level with the workman's elbow, but should the work be of a very light nature, it may be held in a more elevated position; or, if it be very heavy, it may be held a little lower. In filing flat surfaces, a 'surface plate' is used to enable the operator to finish the work with accuracy. The surface plate is merely a cast-iron plate planed and carefully reduced to a true surface. Some red lead is rubbed on this plate before being used; then this piece of work is rubbed on the plate, and wherever the work is reddened it shows that that part of the work is above the level, and has to be filed down; and this process of testing and filing is carried on until the work is reduced to a perfectly true surface. It saves the file to draw it back at each stroke as lightly as possible. There is also economy in using the files first on brass or cast iron, and afterwards on wrought iron."

### Machine for Treating Borings.

In all well-managed engineering workshops care is taken to keep the brass borings, filings, etc., as distinct as possible from those of iron or steel; but notwithstanding the precautions which can be practically taken, there are produced in all such establishments a large quantity of mixed borings, etc., which it is desirable should be subjected to some separating process. The ordinary mode of effecting this separation is to rake the mixed borings by hand with large magnets; these magnets of course attracting the iron and steel particles, and leaving the brass behind. This, however, is at best but a slow process, and where large quantities of boring, shavings, filings, etc., have to be operated upon it is not only expensive but also unhealthy for those employed in it. It was to obviate these inconveniences that M. Vavin, a French engineer, some months ago designed an ingeniously arranged machine, which has been in regular use at the works of MM. Cail and Co., of Paris, since June last, being constructed so as to effect the desired separation of the brass and iron borings, etc., without the aid of manual labor.

The machine is provided with a hopper, which receives the mixed borings, these latter falling from the hopper on to an oscillating spout, which has a vibrating movement given to it. By the aid of the spout the particles are delivered on to a drum, the circumference of which is formed of bands of soft iron, alternated with bands of copper. Each band of iron is in contact with a series of horseshoe magnets, these magnets being so arranged that each has one pole in contact with one of the iron bands and the other in contact with the next band.

The particles of iron falling on the drum, are attracted by the soft iron bands, and are carried round by the drum until they are removed by a revolving brush; this brush sweeping them off, and causing them to fall on an inclined plane, which conducts them to a proper receptacle. The brass particles, on the other hand, together with any iron particles which may have escaped the attraction of the bands of the first drum, fall off this latter on to a second drum, which is constructed in the same manner as the first, and which, like it, is furnished with a revolving brush. This drum completes the separation of the iron from the brass particles, the two kinds of borings, etc., being finally delivered into separate receptacles.

### Preservation of Cast-Iron Water-Pipes.

In 1858 the cast-iron pipes carrying the Cochituate Water from Boston to South Boston were treated with a preparation from coal tar, known as Dr. Smith's process, and the result has been so favorable that it has been permanently adopted by the Cochituate Water Board, and by the managers of other water works throughout the country, where the material used for pipe is cast iron. The pipes laid in 1858 were taken up and examined after ten years' use and were found nearly free from rust or ocherous accretions. This coal pitch varnish is applied substantially according to Dr. Smith's process, which is described as follows in the specifications:

Every pipe and casting must be entirely free from dust, sand, or rust, when the varnish is applied.

The varnish or pitch is to be made from coal tar, distilled until all the naphtha is removed, the material deodorized, and the pitch reduced to about the consistency of wax or very thick molasses; pitch which becomes hard and brittle when cold will not answer for this use.

Pitch of the proper quality having been obtained, it must be heated in a suitable vessel, to a temperature of three hundred degrees Fahrenheit, and must be maintained at not less than that temperature during the dipping. As the material will deteriorate after a number of pipes have been dipped, fresh pitch must be frequently added, and at least eight per cent of heavy linseed oil must be added daily with the fresh pitch, and the vessel must be entirely emptied of the pitch and refilled with fresh material as often as may be necessary to insure the perfection of the process.

Each casting shall be kept immersed from thirty to forty-five minutes, or until it attains the temperature of three hundred degrees Fahrenheit, and, if required by the engineer, shall be heated to such temperature as he may designate before it is dipped.

After the bath is completed, the castings will be removed and placed in such a position to drip that the thickness of the varnish shall be uniform.

The coating on the pipes and castings must be tenacious when cold, and not brittle, nor disposed to scale off, and when it shall appear to the inspector that the coating has not been satisfactorily applied, the pipe or casting shall be thoroughly scraped, cleaned, and re-coated.

### Meteorological.

Professor H. H. Hildebrandson, of the University of Upsal, in Sweden, has prepared four synoptical meteorological maps, which contain several features of scientific interest. It is generally known that a fall of the barometer is usually followed by an increase of heat, and *vice versa*. But in Sweden, from observations taken from Lapland to Upsal, the barometer and thermometer frequently show results quite contrary to the general experience of more southern latitudes; the barometer often falls considerably, while during the long winter nights of this region the thermometer generally remains stationary, and when storms are prevalent invariably falls along with the barometer.

Experience shows that in those regions an intimate relation exists, not only between the variations of the pressure of the atmosphere and those of the direction of the wind, but also between the movements of the barometer and thermometer during serious atmospheric perturbations. The dampness of the atmosphere being much greater in the southeast part of the territory visited by a violent storm than at the opposite extremity, it is easy to conceive that the atmospheres at those two points possess entirely different qualities, analogous, in some degree, to those of the equatorial and polar currents.

### The Cow Tree.

"Among the many curious phenomena which presented themselves to me in the course of my travels," says Humboldt, "I confess there were few by which my imagination was so powerfully affected as by the cow-tree. On the parched side of a rock on the mountains of Venezuela grows a tree with dry and leathery foliage, its large woody roots scarcely penetrating into the ground. For several months in the year its leaves are not moistened by a shower; its branches look as if they were dead and withered; but when the trunk is bored, a bland and nourishing milk flows from it. It is at sunrise that the vegetable fountain flows most freely. At that time the blacks and natives are seen coming from all parts, provided with large bowls to receive the milk, which grows yellow and thickens at its surface. Some empty their vessels on the spot, while others carry them to their children. One imagines he sees the family of a shepherd who is distributing the milk of his flock."

### Tungstate of Soda.

Buckmaster's "Elements of Chemistry" says: "Every year considerable loss of life occurs from the inflammable nature of materials used for dress. Solutions of several salts have been proposed with a view of rendering fabrics non-inflammable. From numerous experiments, it appears that a solution of the tungstate of soda is greatly to preferred. A concentrated neutral solution of the salt is diluted with about one third of water, and then mixed with three per cent of phosphate of soda. This solution is found to keep well, and is used in the Royal laundries. The lightest muslin washed in this solution and dried, becomes non-inflammable."

### Gutta-percha Vessels for Chemical Uses.

A contributor to the *Chemical News* says, "Erroneous views have been held and circulated concerning the durability of gutta-percha under the action of various reagents. We are ordinarily told that it is absolutely unacted upon by cold mineral acids, with the single exception of the sulphuric at 1·6 sp. gr. and upwards. This is far from being the case. There is, indeed, no immediate corrosion, or other rapid and striking change; but, in course of time, the surface becomes overspread with a thin buff-colored layer, which may be easily rubbed off. This change extends gradually deeper and deeper, till the whole mass loses its coherence and splits in various directions. I have before me a number of jugs which have been used for nitric, chlorhydric, and dilute sulphuric acids, as, also, for solutions of stannous, stannic, and ferric salts, and which, in less than three years' service, have become quite worthless; on being sent for repairs to a dealer in such articles, they were returned with the remark that they 'could not be mended, as they had been used for acids.' I find that the disintegration in question can be very much retarded, if the vessels are always rinsed in cold water immediately after being used."

### Use of Borax in Glass Manufacture.

M. M. Maës & Clemendot, glass manufacturers at Clichy, produce a crystal as fine as the best Baccarat and St. Louis crystal by using boracic acid.

The presence of this flux allows a modification in the composition of the crystal, as the oxide of zinc can then be substituted for the oxide of lead; and soda, lime, or barytes can thus replace potassa.

The barosilicates of zinc and potassa, of potassa and barytes, of soda and zinc, manufactured by Maës & Clemendot, are remarkable for their limpidity and whiteness. The following are the proportions:

| | | |
|---|---|---|
| Silicious sand (white) | 261 | 225 |
| Minium | 261 | 225 |
| Potassa (1st quality) | 60 | 52 |
| Borax | 18 | 4 |
| Niter | 18 | 3 |
| Manganese | 18 | 1 |
| Arsenious acid | 18 | 1 |
| Refuse of former operations | 18 | 89 |

USE OF CALCIUM LIGHTS AT THE ST. LOUIS BRIDGE.—Mr. W. Milnor Roberts, who is in charge of the work, says: "We have used calcium lights only for our open-air work in laying masonry on the top of our caissons—one light on one side, and one at the other, on diagonal corners: we found that they distributed the best light when thus placed. We had the oxygen gas forced into copper gas-holders with a pressure of about 200 lbs. to the square inch. These were carried over from the city to the piers on a little steamer, and the gas was conveyed to the burner through small lead pipe. At first our reflectors were of glass, but so many were broken that they were replaced by metal. A man remained with the two burners through the night, to regulate them occasionally, and to mend the pipes when a burst occurred. They usually burn from eleven to twelve hours; and, with the aid of some movable large reflector lamps, the masons worked as well at night as in the day. The cost of the calcium lights to our company was 3·75 dollars per hour each."

A COMING EXHIBITION.—During the past few months we have noticed in the daily papers vague allusions to an association organized for the purpose of establishing in this city, on a monstrous scale of dimensions, a permanent Exhibition of Industry and Art. It is said that the concern has not only been chartered by the Legislature, but that its capital, amounting to $7,000,000 or more, has all been paid in. At last accounts this huge affair was prospecting about for some land whereon to build its Tower of Babel. Can any one enlighten us about this mysterious affair? Who are the incorporators? and what are they intending to do? If an exhibition of that character is to be located in this city or vicinity, we should like to get at the facts.

MARINE COUCH.—We would call the attention of steamship companies to an illustrated description of Newell's marine couch, published in another column. Mr. Newell has patented his invention in Europe as well as in the United States, and is desirous of interesting capitalists in its introduction.

### Inventions Patented in England by Americans.

[Compiled from the "Journal of the Commissioners of Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

948.—PREPARING ICELAND AND IRISH MOSS AS A FOOD.—W. J. Rand, Brooklyn, N. Y. March 31, 1870.

33.—WATCH CASES AND MACHINERY FOR MANUFACTUING THEM.—C. L. Thiery, Boston, Mass. January 4, 1070.

533.—MACHINERY FOR MAKING HORSESHOE NAILS.—Daniel Dodge, Keesville, N. Y. February 23, 1870.

887.—MACHINERY FOR HEATING AND DELIVERING METAL BARS.—S. A. Darrach, Newburgh, N. Y. March 26, 1870.

889.—MACHINERY FOR GRINDING AND POLISHING SAWS, ETC.—W. J. Lippincott, Cincinnati, Ohio. March 26, 1870.

897.—ROTARY PRINTING MACHINES.—Jesse B. Brown, Nashville, Tenn. March 26, 1870.

907.—PUMPS FOR RAISING WATER AND SAND, MUD, OR OTHER DISINTEGRATED SUBSTANCES.—B. H. Jenks. Philadelphia, Pa. March 28, 1870.

960.—SEWING MACHINES.—Nathan Wheeler, New York city. April 1, 1870.

967.—CRUSHING AND GRINDING MILLS.—H. Jackson, Leeds, England, and Charles and John Ross, New York city. April 2, 1860.

973.—MACHINERY FOR MAKING HORSESHOE AND OTHER NAILS.—S. Schleis, inger, Boston, Mass. April 2, 1870.

1,015.—INKSTAND.—C. H. Wight, Baltimore, Md. April 6, 1870.

1,016.—FRAME FOR STATIONARY, WITH THERMOMETER, ETC.—C. H. Wight, Baltimore. Md. April 6, 1870.

1,048.—LOOM.—G. Crompton, Worcester, Mass. April 9, 1870.

1,051.—WROUGHT IRON AND STEEL.—J. Henderson, New York city. April 9, 1870.

1,073.—RAILWAY BRAKE AND STARTER.—E. P. Jones, Shell Mound, Miss. April 12, 1870.

1,074.—WHIFFLETREES.—E. P. Jones, Shell Mound, Miss. April 12, 1870.