

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 landmark (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. Gunther, 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 tons 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. Gunther, 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 tons, 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—

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 canvassing, 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 tons of ballast smelted and run into her timbers, and she has also four tons 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 yachtsmen 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 tons New York Yacht Club measurement, owned by that thorough yachtsman Mr. William Douglas. She is one of the finest, ablest, and fastest of all American or English yachts. Her dimensions are:

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 tons 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 maintenance