

The Caloric Ship—Letter from Capt. Ericsson.

MESSRS. EDITORS.—I cheerfully comply with your suggestion in regard to the Caloric Ship. I have much pleasure in assuring you that nothing whatever has occurred in working the machinery indicating the difficulties that can prevent the successful realization of this important enterprise. The only difficulty we have met with is that of the cylinder bottoms or heaters having proved too elastic and yielding to remain air-tight, or to admit of full pressure being carried. On the return of the ship from the South, two months ago it was deemed advisable to replace these heaters, which are made of boiler plate, by others of cast-iron, as that material admits of being made of any required thickness.—Only one foundry having been found willing to undertake the casting of these, requiring from six to eight months for their completion, we have been compelled to adopt a different plan; one, however, that will insure increased power and speed. As the modification which this involves calls for a work of great magnitude, our friends will have to exercise, some little patience. Allow me, in connection with this remark, to remind you that it is only thirteen months since the keel of the Caloric Ship was laid, and that steamships of her class usually require eighteen months for completion. Mr. Collins, in building his ships, found nearly twice that time requisite.

As the modification of a patented machine is not properly a subject for public discussion until completed, you will, I am sure, see the propriety of my not furnishing a statement of what is now being done to the machinery of the caloric ship; as soon as the work is completed, the owners of the ship will be most happy again to invite the liberal press of New York to see the result of the second step in the development of the great motor.

I am, Sir, very respectfully,
Your obedient servant,
New York, May 20, 1853.

J. ERICSSON.

[This letter was addressed to the Commercial Advertiser. Our readers will see that Capt. Ericsson, confirms all we have predicted respecting the caloric engine. On the 11th of last January the Ericsson made her second trip down the Bay with the corps editorial aboard. On that occasion, as we have stated before, in answer to a question put by Alex. Jones, Esq., of this city, Mr. Ericsson made a contrary statement in respect to his heater bottoms, to that which he makes in the foregoing letter. It was understood by all present that his heater bottoms were to last four or five years. In the "N. Y. Tribune" of the 12th January, it says, "There is no danger either of fusion, cracking, or oxidizing, of the cylinder bottoms, all of which have been predicted by the sceptical—a cylinder bottom will last five years." So much for what the "Tribune" said.

Victor Beaumont, a French engineer, published an article in the "Herald" at the same time, in which he used the following language:—"The bottom of the cylinders (heaters) is a convex surface, it is supposed they will be able to endure longer than four years, the average duration of boilers in the United States."

On that celebrated occasion, the 11th of January, when the editorial corps in this city (as has been proven since, and as will be still further demonstrated yet) did no honor to the profession on board the Ericsson, the Committee consisting of Richard Grant White, Prof. Mapes, and Freeman Hunt, appointed to draft resolutions, penned the following one (the 4th of a series) which was adopted. "Resolved. That the peculiar adaptability to sea vessels of the new motor presented to the world by Capt. Ericsson, is now fully established and it is likely to prove superior to steam for such purposes."

By Capt. Ericsson's letter above, we now learn that his new motor, so far, has failed to operate successfully, for if it did so operate, foolish, indeed, is he and those who have invested their money in it to go into such a vast and unnecessary expense, as "the modification which is now to be made in his engine, and which he calls "a work of great magnitude."

The caloric engine, Capt. E. tells us, is to

be modified, and this modification is not a proper subject for discussion."

These words are pregnant with meaning; the inference to be drawn from them is that the trip of the Ericsson to Washington was "the beginning of the end." At some future time, we will have to present our readers with a full review of the whole case; but we must bide our time.

Southern Granite and Slate.

A correspondent of the "Memphis Eagle" says:—

"In the State of Arkansas, in the immediate vicinity of Little Rock, is as fine and good granite as is to be found anywhere in the world. I was there last fall, and saw it myself; and can say that it is not only as fine, but, if any difference, finer than that I recently saw in New Orleans, to which I have referred to above. I was credibly informed, while at Little Rock, that, a few miles from that city, is what is called the "Granite Mountain"—a mountain of granite about thirteen miles long, two and three miles broad, and a quarter of a mile high. Here, then, is an almost inexhaustible quantity of this material; nor is it only here, but for miles the country is full of it. Why, then, send away to New England for it? Why not have it gotten here, almost, as you might say, at New Orleans itself, and take it right down to the city?"

The reason why these granite quarries have continued so long undisturbed, as given by this correspondent, is the difficulty of getting such a heavy material to market. This difficulty will soon, however, be entirely obviated, by the building of the Great Central Railroad from Memphis to Little Rock, which is expected to be completed within a very few years. Then the granite can be suitably prepared at the mountain, put on the cars, sent to Memphis, and thence shipped all over the western and southern country, from the Falls of St. Anthony to New Orleans.

"The slate quarries of Arkansas also bid fair to be exceedingly valuable. We are now mostly supplied with slate from Wales and Pennsylvania. The Arkansas slate is found in veins about a mile wide, which cross the Arkansas river at Little Rock, and extend southwestwardly as far as Ouachita river, and some distance in the opposite direction. Near Little Rock it is most accessible.—There the vein is seventy-five feet thick above the river bed, which, multiplied by the area of the vein belonging to a company, one hundred thousand feet, gives seven a million five hundred thousand cubic feet of slate. Should the quarry go to a depth of three hundred feet, the total yield would be thirty million cubic feet. From a cubic foot of rock it is estimated that, allowing one third for waste, a workman can split fifty good smooth slates, of sufficient thickness for roofing. This gives a full aggregate of fifteen hundred million slates, or fifteen million squares of one hundred feet of regular size for roofing.

A Cincinnati company have obtained a charter, which runs for fifty years, and have purchased a large tract of land, with a view of supplying the Cincinnati market with slate. They will undoubtedly be successful, as will other companies that will assuredly spring up. As soon as the Central Railroad is completed, Arkansas will take a start that will speedily make her one of the most prosperous and desirable states in the Union."

**(For the Scientific American.)
English Grammar.**

"The republic of letters" seems to be a favorite phrase with us American Anglo-Saxons; but it seems to me that a portion of our literature is as worthy of the appellation "Anarchy of Letters," or "Babelism of Letters," as the "Republic of Letters." It is agreed among all the learned that the English language is one of the most copious and picturesque languages on earth; but we have no code of laws enacted by a Congress of the learned for its government. Our country, however, is flooded with grammars, each author professing to have discovered the true panacea for all difficulties. We have not time to glance hastily at a new author before another appears. This is a sore evil in our schools. Parents, already too highly taxed for bundles of "gibberish," receive a galling note from

their children's teacher to procure copies of the new grammar, before their children have become familiar with the old one. Now is such a state of things to continue? Are we to remain in such a state of anarchy, without a code of inflexible laws to govern our language? I admit that much improvement has been made, but of all the authors known to me, I would express a decided preference to have one good grammar only. B. W. W.

The Dahlia.

We do not know of one single gem in Flora's diadem, more exquisitely beautiful than the dahlia; and there is nothing easier of culture and propagation, and nothing that continues longer in bloom. The wonder is that it is not more generally cultivated at the south. For dahlias this season commenced blooming in April, and they have been one dense mass of bloom ever since, with a prospect of continuing so until frost. The forms range from the exquisite double cup to the open petal.—Some are singularly unique and beautiful; for instance, a deep crimson with a single white petal, scarlet and white, yellow and red, variegated, and all the thousand fancy forms and colors which Flora in her wildest, gayest freaks could possibly assume. The dahlia thrives and blooms best in a sandy soil—too rich a soil making it too bushy. Where the soil is naturally rich, a shovelful of sand put around the tubers will be of great service; and when it is naturally poor a shovelful of well-rotted manure will be the same. But the dahlia loves water, and, when the season is not reasonably wet, it must have artificial watering. We commend its culture to all lovers of the beautiful.

Many who cultivate dahlias are not aware of the ease with which the plant may be obtained from the seed. This may be gathered in sufficient quantities at the season of the year from almost any plant which has blossomed freely during the summer. If sown in the spring in a rich warm soil, with a southern exposure, they will, without any extra care, produce plants which will blossom abundantly during the same season. The practice of keeping the tubers through the winter is quite unnecessary, except for the preservation of choice varieties. Those obtained from the seed will commence blossoming somewhat later in the season than the others, but early enough to mature seed, while the varieties which can be thus secured are almost endless.—[Southern Cultivator.

The Secret of New York Enterprise.

The "Philadelphia Gazette," in quite a lengthy article, attributes the success of New York—its great and rapid increase in wealth, inhabitants, and general prosperity, to energy and enterprise. It says:—

"It is, indeed, New York enterprise, New York energy, New York effort," that has done almost everything for that growing city.—The public spirit and far seeing genius of Clinton gave the original impulse to that system of improvement and progress which has already resulted in such marvellous developments, and which has been carried out since with a vigor and zeal entirely worthy of him. When he projected the construction of the noble canal, from the completion of which New York dates the beginning of her greatness, the dull, slow, and comparatively unenlightened commercial understanding of the period regarded this scheme as impracticable, and laughed at him as a wild enthusiast.—Against ridicule, opposition, and difficulties seemingly insuperable, he persevered in urging the project, until, after the lapse of seven years, and an expenditure of over seven millions of dollars, the work was completed, and the first canal boat from the Northwestern Lakes landed at New York. The impetus given to the trade of the State and its metropolis, by that magnificent improvement, soon rendered New York the central point, on this continent, of internal and foreign commerce, and infused into its citizens, as a community, an energetic and enterprising temper, which appears to be perpetually increasing in activity, and for which no undertaking seems too gigantic.

It is that temper—bold, comprehensive, and restless—which has built the three grand railways uniting the tides of the East and

Hudson Rivers with the waters of Lake Erie, and is now multiplying their extensions through all the vast west. It is that temper, also, which is fast connecting New York by Ocean Steam lines with every considerable port in the world—which is erecting her superb hotels and ware-rooms, opening new and splendid places of popular amusement, spreading the fame of her magnificence far and wide, at home and abroad, on the wings of the press, and in the persons of her people, and supplying, in short, almost the whole of the vast motive power that is operating with such resistless effect the mighty and complicated machinery of her industry and commerce.—Where she once had one, she now owns a hundred De Witt Clintons, who are bending the united force of their large minds and large means to her aggrandizement. The names of her Grinnells, Laws, Vanderbilts, Aspinwalls and Collingses, are known in every quarter of the commercial world; and their spirit, pervading and informing the great mass of the population amid which they live and move, is combining and directing the energies of the whole in the accomplishment of whatever promises to promote and maintain the metropolitan supremacy of their proud city.

A Monster Steam Hammer.

We learn by the "Glasgow Herald," that a monster steam hammer, the largest in the world, we believe, has recently been erected in an extensive machine works in that city by a Mr. Condie. The frame of this is composed of two cylindrical cast-iron columns of 19 feet long, tapering from 3 feet 5 inches in diameter at the floor line, to 2 feet 3 at the capital, and weighing each 9 tons 13 cwt.—These columns stand apart 23 feet, measuring from centre to centre. On the tops of the columns rests a cast-iron beam, measuring 2 feet 6 inches at its deepest part in the centre, and weighing 6 tons 1/2 cwt.; a similar beam, but weighing 7 tons 1 cwt., runs across from column to column at a height of 6 feet 10 inches from the floor line. Between these two beams the guides in which the hammer slides are placed, each of which weighs 2 tons 5 1/2 cwt. The guides and the upper and lower beams and the columns are held firmly together by tie rods that run diagonally from the tops of the columns to the bottom of the slides. The hammer is upwards of 6 tons, exclusive of the face, which is cast separate, and wedged into a dovetailed slot, left for the purpose in the bottom. All parts of this great tool weigh in gross somewhere about 50 tons. The foundation work of such an enormous hammer, with its percussive shock every three or four seconds, was a matter requiring no ordinary forethought.—The whole space under the machine, about 30 feet square, was first, at a great depth below the surface, closely filled with piles 20 feet long and 10 inches in thickness. On the top of these piles there are 400 tons of stones, each three feet in thickness dressed all over, and above this mass lies the anvil block weighing no less than fifty-three tons. When this hammer was set up it started with the regularity and smoothness of a piece of the finest watch-work. But when the huge mass of iron composing the hammer came down with its full weight, with a fall of six feet, then the almost volcanic force of the mighty weapon was understood. The shock caused the earth to vibrate for a considerable distance.

The stone-masons in Glasgow, Scotland acting on the advice of Dr. Allison, of Edinburgh, have commenced wearing mustachios as a preservative against the injury done to the system by fine particles of sand, while they are engaged dressing stones. Custom may be against such natural preventatives; but if it is found that they are at all beneficial, we deem it the duty of some of our medical readers to recommend their adoption by millers, bakers, and others similarly exposed.

If any curious person be desirous to see what neither he nor the world ever saw before, let him drop in upon Mr. John Taylor, at the end of Tyne Bridge, Eng., who has got a whole mile, more or less, of tube, without a single joint, made from gutta percha. Such a pipe was never, in any former age, produced of any material whatever.—[Exchange.