

Marine Architecture—Yachts, America, England.

Mr. J. W. Griffiths, author of the able work on "Marine and Naval Architecture," has added some pages to a new edition of his work, the proof of which we have been kindly permitted to peruse, in advance of publication, from which we select the following:—

"Yacht building next comes in for a share of our attention. It were vain to speculate on the advantages to commerce accruing from the introduction of this particular description of vessels—of the antiquity or utility of the custom of building vessels for the avowed purpose of pleasure, it is not our province to inquire; nor would Americans (whose crude notions of science in ship building are regarded by a portion of the English press as little better than a contemptuous violation of the royal mandates) have ventured to cross the threshold of the sporting circles of the Old World, had not their unparalleled success in every branch of commercial art engendered the conviction that the genius developed by the institutions of the New World were quite as favorable to excellence in yacht as ship building.

The yacht squadron of Europe, whose owners are the representatives of hereditary knowledge, viewed with a kind of contemptuous complacency the humble pretensions of an American ship builder at yacht building. The sequel, however, afforded abundant proof that knowledge is not commensurate with wealth, nor experience with age, and that not a few of the yachts, as well as other vessels of the Old World, have been, and are now propelled with the wrong end foremost.

The preaching of Paul at Ephesus scarcely produced a greater sensation among the idolatrous Ephesians, than did the Yacht America among the sporting circles of the Old World. American ship builders have ventured to look beyond the battlements of war for perfected models in the messengers of peace; nor has their vision been confined to the studio of the philosopher, who would bend the channels of commerce into his untried theory, and hinge the science of ship building on the solution of a single problem; much less are they willing to commit the interests of this important art in the United States to the dictation of the periodical press of England, even though it be mantled with the guise of mechanism. And although the ship builders of the United States may have been deemed refractory by the philosophers of the Old World, yet we trust that it will be regarded as a sufficient apology, (when told that the United States are young as a nation, and, consequently, her experience must of necessity be limited), that their vessels, whether sailing or steaming, have no superiors, and that it would perhaps be quite as well to continue the consultation of the same chart which has pointed unmistakably to the channel of success, and which to them, and to the mechanical world, is sufficiently legible, although it may not seem quite clear to a small portion of the transatlantic press. They, however, have had a sufficient amount of experience and research to enable them to discover that the man who knows so little of the practical operations of a ship yard, as to be unable to tell how many sixteenths of an inch are contained in one foot of an ordinary mechanic's twelve-inch rule, has gone beyond his depth when he undertakes a crusade against American ship builders. We are frank to admit that they have not followed the metaphysical abstractions of their ancestors, and that they are unwilling to endorse the adage, which teaches that Britannia rules the waves; and however little they may know of the theories of ancient or modern philosophers, or even of the researches of the renowned hero of a London Mechanical Magazine, they know that no sophistry can make that right which common sense pronounces wrong; and they have learned still more, that the best theory is that which is proved by practice, and can point to their ships as the best evidence they are able to furnish the world, that their theory and practice agree to demonstrate the correctness of their works on Marine and Naval Architecture; and that the principles upon which their practice is based, will live when the invective gall of an editor, or the fury of their jealous neighbors has pass-

ed away—'Time's boundary sundered, and commercial operations come to an end.'

Experiments have been, and still are, regarded in Europe as the best means for materially improving this ennobling art; but of what avail has the many experiments in submerged blocks of various forms been to the maritime of England, France, or other parts of Europe? Their vessels furnish the clearest exposition, which requires no comment from us. Experiments are valuable in maritime pursuits; but let their management be given to practical men, and let the subject be the vessel itself, (as in this country); every ship that is built by a new model is an experiment, and surely Americans should be the last people to disclaim experiments; but let them combine both theoretical and practical knowledge, and there is little hazard in ensuring success.

The Yacht America was an experiment, and during the progress of her construction, was regarded as a failure by not a few of those who cannot look into nature's laws of utility for themselves—who can only see what some one before them has seen. Among the very few practical ship builders of the United States (the weight of whose judgment was no longer a problem for solution), none was to be found who rejected the principles involved in her construction. The experiment consisted chiefly in the more acute angle of her fine of flotation on the anterior part, consequent in part upon having located the greatest transverse section further aft than on other vessels of similar model. The wave line principle, carried out in the construction of the America, had been successfully adopted in some of the pilot boats of our coast with abundant success. The Mary Taylor and the Moses H. Grinnel are very similar in form to the America, and we have but little doubt but that the latter would have been quite a match for the best sailing vessel in the yacht squadron of Europe, had she been sent on such a mission; and unless the yacht builders of the Old World are prepared by their recent defeat for greater improvements in the speed of their vessels, it will not again be deemed necessary to build a vessel expressly for comparing the speed of the Western World with that of Europe. But superior speed is not the only quality furnished in the models referred to; the vessels thus built are stronger, more comfortable, and, as a consequence, render life more secure; the resistance on the bow of the vessel (upon which the water is not heaped up) serves to hold her together; thus we find that where resistance is diminished, strength is increased; but this is not all: the vessel is steadier, the pressure being brought to bear on the sides of the vessel, instead of on her ends, serves to increase her practical stability, which is an item worthy of consideration."

Culture of the Olive.

The Patent Office Report contains the following letter from L. W. Tinelli, Esq., United States Consul at Oporto, which will be of interest to our readers:—

"In a recent excursion to the Algarves, where orange trees are more cultivated than in these northern provinces, I had occasion to notice a remedy used by the farmers there to cure the trees affected by the Ferrugen, or to prevent its attack.

They wash the tree all around for the length of a foot, with a mixture of lime, potash, and oil or soap. I was assured that this simple preventive had greatly diminished the destruction caused by this insect.

Thinking this information might be of some service to you, I take the liberty of communicating it without loss of time. I would also respectfully call your attention to the cultivation of the olive in Florida, and in most of the Southern States. Formerly the olive, on account of its slow growth, was not considered very useful; but some years since a new variety was introduced into France, and into some parts of Spain and Portugal, which yields an abundant crop of fruit the second year after planting. They are small trees, or rather shrubs, about four or five feet high. The fruit is larger than the common olive, is of a fine green color, even when ripe, and I am informed, contains a great deal of oil! The advantages accruing from this new mode of cultivating the olive tree are beyond all calculation. By the old method, the olive tree

does not attain its full growth and consequently does not yield any considerable crop, under thirty years; whereas the new system of cultivating dwarf trees, especially from cuttings, afford very abundant crops in two or three years. An acre of land can easily grow 2,500 trees of the new variety, and the gathering of the fruit is easy, as it can be done by small children.

I am proud of being one of the first to introduce into the United States the culture of silk, which would certainly be more advanced if the frantic speculation in *morus multicaulis* had not spoiled the business and deluded many good farmers.

As the cultivation of the olive does not require the least practical knowledge, and as every one in the States understands the process of making oil, I would be most happy to forward, by all means in my power, whatever your patriotic views might suggest on the subject. I should think that good olive bushes, well rooted, and good with heads, might be had here at from 18 to 22 cents each."

[It is our opinion that the olive can be cultivated in the United States; a fair trial, at least, should be made, for the olive is one of most useful fruits in the world. Olive oil makes the finest of all soaps, when made with pearl ash. The oil is beautiful for table use, and it is also healthy. We know precious little about pure olive oil here. There are thousands who believe they partake regularly of pure olive oil, that have never seen a drop of it. Olive oil is most excellent for lubricating machinery, and it is very extensively used by dyers of fine colors, to animalize, as it is termed, cotton so as to make it take on beautiful, and rich madder and alkanet root colors. The culture of the olive would be of immense benefit to the United States, and we are positive that it can be cultivated here as well as in Greece or Portugal.

Parker and Re-Action Water Wheels.

MESSRS. EDITORS—I have a circular in my possession, stating that all persons making, vending, or using any re-action water-wheel, infringe on the patent of Z. & A. Parker, of Ohio. There were four agents in Vermont, last year, collecting heavy fines of all who were using any kind of re-action water wheels—giving only four days' notice, and threatening that, if not paid within that time, they would attach property to the amount of five thousand dollars wherever they could find it. The amount of fines collected in one county, in that State, was two thousand dollars. I understand that they are going to commence with this State next spring; there is a large number of Calvin Wing's Spiral Vent Water Wheels (patented Oct. 1st, 1830) in use in this State, and a patent fee has been paid to him or his agents for them. Now, I wish to know if Parker or his agents can collect another fee on this or other re-action wheels. In No. 32, Vol. 6, of the Scientific American, it says that Parker's patent has run out. I wish you to inform me if mill owners and others will have to settle with these men on their own terms. C. GOODNOW.

East Sullivan, N. H., 1852.

[To our correspondent, and others in New Hampshire, we say, that if a person were to call upon us in the same way that these men are stated to have done to people in Vermont, we should apply to the nearest magistrate to have him taken up for obtaining money by false pretences. No patentee can attach the property of any man. The Patent Law provides [see sec. 15, Act 1836] that, in any action brought by a patentee for infringement of a patent, the defendant is permitted to plead the general issue. Those agents spoken of by our correspondent, whoever they may be, are acting in a manner to prejudice the whole community against patents; and they are acting to deceive men who are not acquainted with the patent laws, so as to frighten them into the payment of taxes they may not owe. We believe these men can be prosecuted for acting as they are represented to have done. We warn the people of New Hampshire to remember the adage, "not one cent for tribute."

It is well known that we are deadly hostile to patent pirates—those men who rob inventors of their inventions; and perhaps Mr. Parker has been often wronged by such men,—we feel for him in such cases, but it is very

evident that people like our correspondent, are not patent pirates; if they are using the wheel of Parker's expired patent, they have been imposed upon—innocently perhaps, by some other person, and it is wicd to work upon their fears in order to make them pay a tribute, when the law provides how this shall be done, viz., by a jury trial of their peers. We advocate justice to all inventors, patentees, and the people.

Transporting Timber,

Your correspondent, M. M. M., of East Dorset, Vt., is greatly mistaken in supposing the contrivance he mentions, for conveying timber from the Green Mountains to a lower level, to be "a new form of overcoming resistance." The same thing precisely, only on a more magnificent scale, excited great interest throughout Europe in 1815-16.

This famous slide was built and used for transporting the vast forests of pine and fir, that grew on Mount Pilatus, Switzerland, to the Lake of Lucerne, by a native of Wirtemberg; it was composed of some 30,000 large pine trees, squared by the axe, and formed into a trough six feet wide and from three to six feet deep. In the bottom was a groove for the reception of a small stream of water, let in over the side of the trough; to diminish the friction; it was carried along the faces of the most rocky eminences; sometimes it went under ground, and again it crossed the deepest ravines, supported by scaffolding 120 feet high. M. Rupp, the projector, was frequently obliged to descend the steepest precipices, suspended by ropes, at the imminent hazard of his life; and the skill and ingenuity he displayed in surmounting the difficulties of this vast undertaking, gained him a just tribute of admiration. A telegraphic communication was established between the two extremities of the slide, which was nine miles in length, and the trees, having been stripped of their bark and limbs, and introduced into the trough, performed the journey in six minutes, and some of the largest in three minutes. The velocity of the descent caused such an accumulation of force as to occasion several trees, which sprung from the slide, to penetrate into the earth by their thickest ends, to the depth of eighteen to twenty-four feet; and, in one instance, one of them coming in contact with another, cleft it from top to bottom with the violence and rapidity of lightning. (See Playfair's works, Vol. 1, Appendix No. 2, p. 89). Verily there is nothing new under the sun. CHAS. S. WATTS.

South Boston, March 8, 1852.

[The idea was new, no doubt, to Mr. Cochrane, the gentleman referred to on page 200. The plan of his trough, also, was different from that of Mr. Rupp—Cochrane's being made out of boards, forming a tunnel, the water being employed to float the timber. Mr. Rupp's plan was a slide to carry the timber, like an inclined plane—a plan frequently pursued on the sides of the Norwegian pine hills. Cochrane's plan is much the cheapest, but not so suitable as Rupp's for transporting heavy trees down very steep declivities.—[Ed.]

To Stop Bleeding from the Cavity of an Extracted Tooth.

Noticing the case of Mrs. Locke, who bled to death in consequence of the extraction of a tooth, Dr. Addington, of Richmond, Va., says he never fails to stop the bleeding by packing the alveolus from which the blood continues to trickle, fully and firmly with cotton moistened in a strong solution of alum and water. He cured a brother physician in this way, whose jaw had bled for two weeks.

This is truly a very simple remedy, and from the nature of alum—its astringent quality, we should judge it to be a very effectual one.

Copper Tube Manufactory.

At Somerville, says the Lowell Vox Populi, a large factory has been built for manufacturing copper tubes. It is the only one in this country, and is not likely to be troubled with competition, for it is said that there is only one man in the United States who knows the whole trade. He is an Englishman. The other workmen at this factory are allowed to learn only half the trade, the work being carried on in separate buildings.