

Philosophy of Mechanics.

Being an answer to a series of articles published in the Scientific American, commencing on page 67, termed "Important Discovery that may lead to improvements of great value."

No. 4.

Having shown that the author of the articles on motion had made a fundamental mistake in respect to the composition of forces (inertia, &c), and having touched upon the form of least resistance—the best way of shaping vessels, I will now briefly allude to his last articles (pages 275 and 283), whereby he is to cross the Atlantic in five days.

And now, after all that he has written upon the subject, although he presents some good ideas, the whole impracticability of an impracticable theory is at once made plain, for he arrives at the conclusion that a vessel 960 feet long, 30 feet deep, and 15 feet of the greatest width, would cross the ocean in less than five days. Who in the name of wisdom, that ever made a voyage to sea, would venture in such a craft? This long lean vessel, in length three times longer than Trinity Church steeple, and in width only five steps across deck, would not get three miles beyond Sandy Hook in a gale, until it was hog-backed. The only way to make such a vessel strong enough, would be to cut down six Oregon pines, 160 feet long, gouge them out canoe-fashion, splice them together and make this marine *long tom* out of them to cross the Atlantic at the rate of 28 miles per hour. Well, to come to an end with this "important discovery," I have just to say, that our splendid steamers on the North River can make as good time as that, and I would far rather trust myself in the *Alida* to cross the Atlantic, than in this 960 foot ship. Any person has but to read his last articles to be convinced of one thing, viz., "that persons should never write about things they don't understand," for he says, "the large waves might therefore rise entirely over the ends without raising or straining the vessel in the least." In 1836 a vessel was built away up at Albany, by one who had never been to sea, upon the principle of the above, that is, to dash through the seas like a dolphin. It came down to New York and performed the feat as soon as it got out of the Narrows, by dashing down to the bottom.

There is no subject which has engaged more attention than that of ship building, and Mr. Beaufoy was occupied for five years (1793 to 1798) in making experiments upon "the solid of least resistance." His book is very scientific and contains 700 pages, valueless and dull to the practical man, and as useless as this "important discovery." The author of it in one of his articles said, "if philosophers knew the theory of motion, why did they not lay down rules for the forming of vessels. I have shown that this subject engaged the attention of Newton, and scores of books have been written on the subject. The discussion of this subject, for want of room, could not be conducted through the columns of a newspaper. It would require volumes to discuss it. A few years ago a great work was published on the subject by J. Scott Russell, and the work which Mr. Griffiths of New York is now publishing goes over the whole field.

Naval architecture I hold to be the grandest art in the world, and one of the most difficult to comprehend in all its details. We only can look for advancement in this art to those who unite theory with practice, who are patient observers of the physical facts which experience brings to their view, and have sufficient science to account for, and penetration to discover their application. Theory and practice constitute art. We cannot look for improvements to men who may bring forward some geometrical or mechanical series of curved lines for a ship's body, deducing the best form for a ship from these, as this has been often done, and may be performed by a mere dabbler in the art. A number of writers on this subject have contended like the author of the articles in question, that the path of our planet was the true form to compete with all others in attaining to the greatest speed, but I have never seen one of their fine spun theories, which treated the matter correctly, that

is taking into consideration that a ship is propelled being partly submerged in a non-elastic fluid which buoys and sustains it. In 1838 a steamboat was built on the North River upon two metal hollow double cones, as being the best form of least resistance. Every body has known the result. It was a decided failure. Neither the seaman, however great his experience nor the unpractical theorist are qualified to judge correctly of the qualities of construction for a sailing vessel. It is but a few years ago since a "life boat" was exhibited in New York, executed by one who had merely reasoned on the subject; and before a fair trial was made of its merits, his model had been examined and pronounced by a number of old sea captains (who gave certificates of their opinions) to be the best life boat, in principle, they had ever seen,—that it could never be turned over nor swamped in the most dangerous surf. When this boat was tried the first feat it performed was a somerset—it turned keel up. It was constructed without any solid idea of the lines of floatation.

It may be stated in objection to what I have said, that I have not disproved the assertion that a vessel built of the form set forth by the author of the articles in question, is the best, but in answer to this I say, has he proved that his ship would cross the Atlantic in five, six, seven, ten, or twenty days? No such thing. He has adduced no proof that he could make it sail at all, much less making it sail faster than any other.

I have plainly shown that he was not properly acquainted with the "philosophy of mechanics," that he was ignorant of what others had done in respect to the best form of sailing vessels. And now, it may be said, I have adduced no figures to disprove what he has said. This is true, but I have adduced plenty of facts, and they are the strongest kind of figures. As I have said before, it would require volumes to go into the details of ship building, and give the proper figures, with the lines of measurement, for the best form of vessels. But in respect to this new theory which has been set forth, it requires no learning to show its error, although it may to advance words against it. The most uncultivated have correct ideas of right and wrong—grace and beauty—although they cannot give a reason for their feelings or tastes; and so it is with this theory in question: when we see a lame man, we say he is deformed, but what reason have we to say a crooked legged man is more deformed than a straight limbed man. No philosophical reason is required—the fact is self-evident to all, and so it is with this theory, and the way by which the author of it can satisfy himself, is to build a vessel on his principle, using the fourth of a foot measurement to his proportions, when he will have a steamboat 280 feet long and 3 feet 9 inches wide—a width, indeed, incapable of receiving a cylinder of an engine capable of driving one of our ferry boats.

(To be Continued.)

Parker's Reaction Water Wheels.

ONEONTA, June 8th, 1850.

MR. EDITOR: I notice in your paper of today, that the Committee on Patents have reported favorably to the extension of Z. Parker's patent on water wheels.

I think if the Committee were rightly informed they would not have so reported, and I hope for the good of community it will not be extended. Mr. Parker is no doubt entitled to, and receives, much credit for his improvements in water wheels; but he is only an improver, instead of an inventor of the reaction water wheels. They have been known and used for more than sixty years, and were described in Evans's Millwright's Guide of 1795, and have been used in various forms, in various parts of the United States, quite extensively since that time. Parker by his claim covers, I think, no new principle of operation, merely an improvement in construction. He covers with his claim the application of the scroll case to reaction wheels; but I am confident that that kind of case was in use more than forty years ago. Two days since I received a communication from an old millwright, nearly seventy years of age, who informs me that the

cases which Parker claims as giving "a circular, spiral motion," were in use in 1801, which fact he can substantiate by many living witnesses. This, together with many others of a like character, are from a reliable source; which fact, together with the fact that wheels of the reaction kind, all operating upon the same principle, (according to the decision of the Franklin Institute, which, by the way, I think incorrect,) are in so universal use, that to extend a patent of that character would be altogether wrong. It cannot be possible that Parker presses his claims for an extension of his patent, upon the ground solely that he has not received a fair compensation for the same. Twenty-one years ought to suffice, I think, for any patent, particularly for one of that kind, when his agents are collecting at this time for using more than forty different kinds of water wheels, (most of which have been patented by our Government,) in all parts of the country. They have exacted and received \$25, and \$40 a mill in several instances in this vicinity, which is certainly an outrageous charge for a patent right on a mill on which they have not fed an agent, or been to any trouble in putting up a wheel, even allowing the wheels to be an infringement, which I think is not the case. Who can tell whether any of the thirty patentees who have received patents on reaction water wheels, ever saw a Parker wheel, but instead of making an improvement on his wheel, have been improving on a reaction wheel which was in use before Parker was born. I conceive that Parker's claim touches no wheel but such as discharge their water upon the outer edge or rims; while many of the wheels which his agents call infringements, discharge the water through them in the direction of the shaft upon a curved bucket.

If Parker was entitled to a patent on his wheel in 1829, which he himself owns in his letter published in Vol. 3, No. 48, of your paper, was but an improvement on wheels then in use, others may be entitled to at least some credit for their improvements. Some of the patentees of wheels were I not acquainted with wheels of any kind. N. Sohnsen, who obtained letters patent May, 1838, was a tailor by trade, and made the invention of his wheel while following that occupation.

That Parker should receive a fair compensation for his improvement, is certain; and it is equally certain that other men live, and should at least enjoy a chance to live, notwithstanding his letters patent. That he should attempt to monopolize all improvements on water wheels as his own, made for the last twenty-one years, and wish to continue to, hardly agrees with the golden rule, and certainly does not agree with our notions of the privileges of a republican government. He was an improver upon an old and known wheel; others are improvers upon the same, and with him are equally entitled, in our opinion, to the benefits of their improvements.

Our patent system is wrong. When at the patent office, with all the facilities which are there had to ascertain the novelty of an invention or improvement, they see fit to grant a patent, that ought to be an end of the matter. Such continued litigation in a high Court not only is attended with trouble and loss to patentees, but makes the community afraid to buy a newly patented article, for fear of being called on and obliged to pay for the use of the thing over and over again.

I am of the opinion, that government should pay every successful inventor a fair compensation for his improvement, if of value, and make the same public property at once. A corps of scientific and practical examiners at Washington, should decide upon its utility and pay the inventor or his representatives for the same, out of a fund created for that purpose, and make the same public at once. Such a system would do away with patent litigation, do away with the extra price for a new patent article, tend to forward invention and improvement by making persons immediately acquainted with every thing new and useful, prevent imposition by selling new patented articles which are no better than the old or wholly worthless, and would be thoroughly republican, free from both monopoly and aristocracy.

I conceive it to be your duty, through the

influence and extensive circulation of your valuable paper, to prevent if possible the extension of the patent in question, together with all others where the patentee has been rewarded for his improvement and the community will be injured by their extension. The country is much indebted to you, (for which it is grateful,) for the decided stand you took against the extension of the patent on J. Wood's Cast Plow, and we think that you were, to a great extent, the cause of its failure, and this is another opportunity to serve the public successfully, and with its entire approbation.

Respectfully yours,

H. BAKER.

A New Discovery in Aerostation.

The London Times has an account of the ascension in a balloon by Mr. Bell, a gentleman connected with the medical profession, who has decidedly achieved a new discovery in the science of aerostation—that of controlling, directing or steering a balloon. It says:

"On Friday evening the appearance of a balloon of a singular form, traversing the metropolis, occasioned some speculation as to whether the frail car, from its oscillating gyrations, contained an animate or inanimate aeronaut.

"The occupant was the gentleman above mentioned, who manœuvred his bark through the realm of air with a dexterity that puts all his contemporaries in the shade. Without endeavoring minutely to describe this balloon, it may be briefly stated that it is of an elliptical shape, somewhat resembling in form the Spanish melon or vegetable marrow, manufactured of the finest silk, with netting of cordage and with a spring valve, constructed on an entirely new principle. It was estimated that the balloon would contain about 15,000 cubic feet of gas, its dimensions being 50 feet in length and 22 feet in diameter.

"The inflation, conducted with the greatest privacy, took place from the monster gasometer of the Phoenix Gas Works, (formerly the Water Works,) in the Kenington-oval, under the direction of Mr. Munro, the superintendent. The ascent was made about six o'clock, and the descent took place in Essex, with a result favorable to the intrepid aeronaut, but causing the loss of life of one who had bravely and kindly hastened to the rescue of a fellow creature in his perilous descent from the regions above. A man had his skull fractured by the grapnel while assisting to secure the balloon."

A New Colony in Georgia.

An agent for a London Emigration Company, has purchased about one hundred and fifty thousand acres of land in Irwin county, Georgia, for the purpose of getting it settled by English operatives and manufacturers. They are situated in a fine cotton-growing region supplied with water-power and timber. The construction of a railroad to the principal towns is designed.

[This we take from an exchange, and cannot vouch for its integrity, but probability.]

The Cotton Crop.

The Augusta Chronicle of Friday says: "We conversed to-day with a gentleman who has just returned from a tour to the Cotton growing region, in the Southwestern part of the State, and he reports the appearance of the crop much worse than at this period last year, and in this section of the State appearances are equally as discouraging."

We are informed by a friend of ours from Texas, that the crops looked well there, and that it can raise cotton enough to supply the whole world.

Icebergs in the Atlantic.

Intelligence has been received at Lloyd's, from Newfoundland, of an enormous field of ice, upwards of one hundred and fifty miles in length, floating in the Atlantic, about the latitude of 46°. Several vessels were beset, and it is strongly feared that, as the ice lies in the direct track of vessels crossing the Atlantic, some serious disaster will be caused. This early drifting of ice from the Polar seas is considered extremely favorable to the expeditions in search of Sir John Franklin and his brave companions.