Scientific Museum.

British Association for the Advancement of Science---Lieut. Maury's Charts.

The British Association for the Advancement of Science met at Hull, England, on the 9th ult. The usual address on the objects and proceedings of the Association was read by Prof. Hopkins, Vice President of the Royal Society.

Commencing with astronomy, he stated that between the 23d of July, 1852, and May 6, 1853, nine new planets were discovered, of which Mr. Hind had discovered four; while the probability was, that there were many more still to be recognized. In connection with this subject, he stated the result of the interview with the Premier, of England, as to the establishment of a powerful reflecting telescope in the southern hemisphere. The Earl of Aberdeen had expressed himself favorably toward the object, but had referred the matter to the Chancellor of the Exchequer. "Judging," he said, "from all we know respecting Mr. Gladstone's views on subjects of this nature, and the favorable manner in which the House of Commons has always received propositions for the advancement of scince, we have, every reason to hope that my successor in this chair may have the satisfaction of announcing to you another proof of the liberality of the Government. In such a case, the result, I doubt not, will afford another proof that the Association is doing effectively what it professes to do as an Association for the Advancement of Science." After reference to the progress of terrestrial magnetism, the publication of isothernal maps, and other purely scientific matters, the President proceeded to say, "My predecessor, in his address, informed us of an application made to our Government by that of the United States, to adopt a general and systematic mode of observing phenomena of various kinds at sea, such as winds, tides, currents. &c., which may not only be of general scientific interest, but may have an important bearing on navigation. The plan proposed by Lieutenant Maury, and adopted by the American Government, is to have the required observations regularly made by the commanders of vessels sent out to sea. I am happy to be able to state to you that our Admiralty have given orders for similar observations to be made by those in command of English vessels; and we trust also that proper persons will be appointed without delay for the reduction of the mass of observations which will thus soon be accumulated. The recommendation of the general committee, that in the event of a survey of the Gulf Stream being undertaken, provision should be made for investigating its zoology and botany, has been communicated to the hydrographer of the Admiralty, and favorably received. A proposition from Dr. Bache, director of the coast survey of the United States, for a joint survey of the Gulf Streams by the United States and Great Britain, having been addressed to the British Association since the Belfast meeting, has been forwarded to the hydrographer of the Admiralty.

Mr. Hopkins concluded his review by an estimate of what he conceived to be the legitimate objects of the Association. "One great duty," he said," which we owe to the public is to encourage the application of abstract science to the practical purposes of life—to bring, as it were, the study and the laboratory into juxtaposition with the workshop. And doubtless, it is one great object of science to bring more easily within the reach of every part of the community the rational enjoyments as well as the necessaries of life; and thus not merely to contribute to the luxuries of the rich, but to minister also to the poor, and to promote that general enlightenment so essential to our moral progress and real advance of civilization. But still we should not be taking that higher view of science which I would wish to inculcate, if we merely regarded it as the means of supplying more adequately the physical wants of man. If we would view science under its noblest aspects, we must regard it with reference to man, not merely as a creature of physical wants, but as a being of intellectual and moral endowments, fitting him to discover and comprehend some part at least of the laws which govern the material universe, to admire the harmony which pervades it, and to love and worship its Creator."

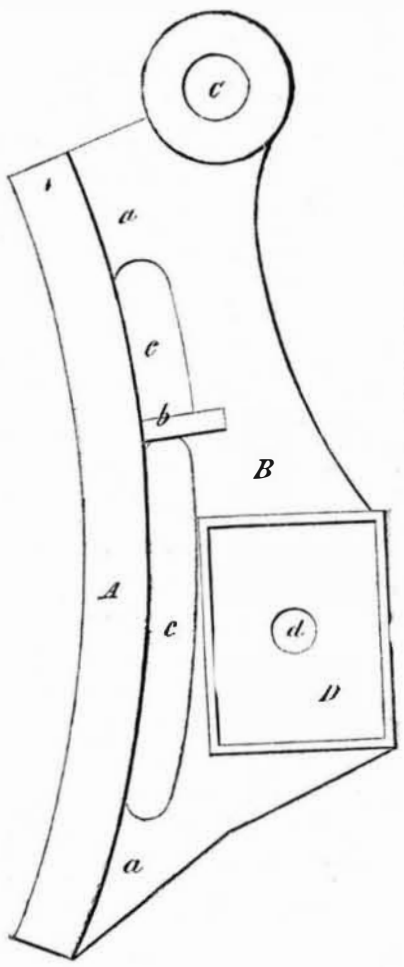
[This abstract of Prof. Hopkin's address, presents matter for rejoicing to every lover of science in our country. The influence of our countryman, Lieut. Maury, and the acknowleged lead our country has taken in nautical matters, such as the winds and currents of the ocean, &c., is something which thrills our heart. The concluding part of the address shows the difference between ancient and modern philosophers. In the days of old they carefully used knowledge to keep the people down; modern philosophers endeavor to elevate them. We thank Prof. Hopkins for the sentiment which he has uttered above, namely, "one great duty we owe the public, is to bring the laboratory into juxtaposition with the workshop; to encourage the application of abstract science to the practical purposes of life." We must say that both the British and American Associations for the Advancement of Science, greatly need this advice. The majority of the papers hitherto presented by these associations have been so abstract as to be positively useless in relation to any useful purpose. We will endeavor after this to present an abstract of the few practical papers which were presented at the sittings of this Association.

Morse's Car Brake.

The annexed engravings are views of an improvement in car brakes, for which a patent was granted to Stephen Morse, of Springfield, Mass., on the 6th of last month, (Sept. 1853.) Figure 1 is a side elevation of the brake, and figure 2 is a rear elevation. The same letters refer to like parts.

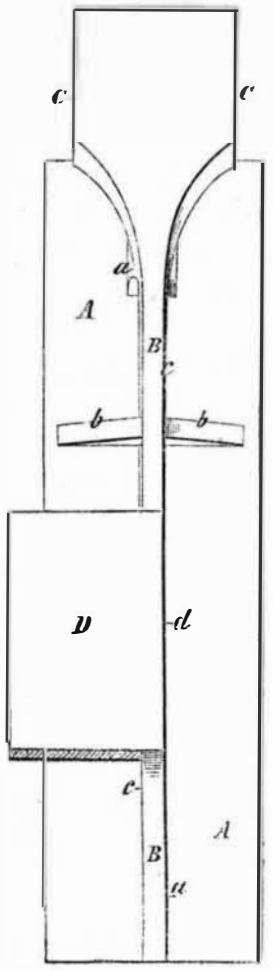
The nature of the invention consists in providing a brake of cast metal, constructed in such a manner that the friction surface of the same will be worn off before the other portions are impaired. It is constructed in one solid piece, dispensing with bolts and pins for holding the parts together, as in other brakes. The point of suspension is placed in such a position that the brake, when relieved of pressure, will disengage with the wheel by its own gravity, thus avoiding the use of springs, or other re-acting agents.

FIG. 1.



A is the concave friction plate or rubber that plays against the tread face of the wheel. It is connected at *a a*, and the brace plates, *b b*, to a light spine plate, B, on its back; *c c* are open spaces between the spine, B and A. They extend to nearly the entire surface of the rubber, A, and are only interrupted by the connections, *a a* and *b b*; C is the point of suspension. It consists of an eye for the reception of a bolt in the timbers of the car, to which the brake is subtended. This suspension eye is placed in the head of spine, B. Below this, and about midway of the back of A, the socket, D, is formed on the spine plate. A bolt passes through the hole, *d*, to secure the end of the cross-tie or timber which extends to the next brake on the opposite side of the car.

FIG. 2.



This brake is applied in the usual manner against the face of the wheel. The friction caused by applying the brake generates a great quantity of heat, but a very small portion of it is conducted to the spine, as the heavy rubber A, will retain the most of it. This rubber will wear out long before the parts, C D, which will endure for a great length of time. This brake is economical in its construction. The claim is for the brake as constructed—its mechanical character, namely, "the spine, B, having the point of suspension, C, and the socket, D, on it, with the open spaces, *c c*, and the plates, *b b*, in combination with the friction rubber, A, as set forth."

More information may be obtained by letter addressed to Mr. Morse.

The Greatest Clipper-Ship in the World.

On the 4th inst., the mammoth clipper ship "Great Republic," was successfully launched at East Boston, bounding into her adopted element amid the cheers of thirty thousand spectators. She is a marine wonder, the longest, largest, and sharpest ship ever built in the United States. The dimensions given her in the Boston papers are, length 325 feet, width 53 feet, depth 36 feet, registered tonnage, 4,000, with stowage capacity for between 6,000 and 8,000 tons.

It is estimated that she has 2,380 tons of white oak in her frames, hooks and knees; 1,500,000 feet of hard pine in her kelsons, ceiling, deck frames, decks, planking, &c., 300 tons of iron, 50 tons of copper, 1,600 knees, and that the labor bestowed upon her amounts to 50,000 days' work. She has concave lines forward and aft, and a round stern, and is coppered up to 25 feet draught.

All her accommodations are on the upper between decks, and on the spar deck she has a shelter house for the crew in bad weather, a steam engine of 15 horse power, designed to do all the heavy work of the ship, such as taking in and discharging cargo, and hoisting topsails at sea. She has four masts, the after one fore-and-aft rigged, like the mizzenmast of a bark, and the others have Forbes' square rig. Her mainmast is 4 feet in diameter, and 131 feet long, and the mainyard is 28 inches in diameter, and 120 feet long, and the others in like proportion. She will spread 16,000 yards of canvas in a single suit of sails, and will carry 100 men and 30 boys. She is owned and was built by Donald McKay, of East Boston; this fact is already known throughout the length and breadth of the land. She will be commanded by his brother, Capt. L. McKay, formerly of the "Sovereign of the Seas."

Cotton Ropes for Ships.

We notice among the Boston vessels that these ropes are becoming generally introduced; they are the least expensive of any cordage, and if some substance could be invented to saturate the cotton to keep out the water, the importation of foreign rigging would soon cease. We notice on the new ship John N. Cushing, these ropes have been introduced for buntlines, as they chafe the sails but very little.—[Newburyport Union.

[If the rope manufacturers would treat the ropes with a solution of alum, and then dry in a room of a temperature about 220° Fah., they would make them almost water-proof.

LITERARY NOTICES.

RUDIMENTS OF THE ART OF BUILDING—Published by Stringer & Townsend, New York City, and edited by John Bullock, Architect and C. E.—The author candidly admits that it required but little alteration "to suit Dobson's excellent little treatise to American readers." We like to see such a spirit as this displayed. Mr. Bullock has done his work well and faithfully. The publishers have also made a neat and well finished book. It is illustrated with over one hundred engravings on wood, and is strictly elementary in its character.

LITTELL'S LIVING AGE—No. 489, of this unrivalled work, commencing volume 3 of the new series, contains a long article on the pedigree of Heraldry, and has a just tribute to the labors of Lieut. Maury, from the "London Examiner." This number contains 14 long articles, a number of fine pieces of poetry, and quite a number of interesting short articles. As a cheap magazine for general reading of a solid character, it is unsurpassed. Published by Littell, Son & Co., Boston.

HOUSEHOLD WORDS.—We have received from Messrs. McElrath & Baker the October number of this charming publication. Some of our readers may not be aware that this publication is edited by Charles Dickens—the most popular writer of the day.

AMERICAN UNION—A weekly journal of choice family reading, conducted by R. B. Fitts & Co., Boston, Mass. It is a capital literary journal, and deserves a liberal subscription list. A new volume will commence in about two weeks, which is the most favorable time to subscribe—we advise all our friends to do this without delay. Terms $2.