

Nahuatl language, which played so important a part in Mexico and Central America. It signified water, war, and the top of the head, and furnished a series of words, such as *atlan*, on the border of or amid the water; also *atlaga* (preterit, *atlaz*), to combat or be in agony, and to hurl or dart from the water. *Atlan* was the name of a native city at the entrance of the Gulf of Uraba, in Darien. The same combination appeared also in *Quetzalcohuatl*, the name of the quetzal plumed serpent god of the Aztecs.

We are not aware of any geological reason for doubting the possibility of the lingering of Atlantis as an archipelago down to post-tertiary times, and its final submergence within the period since man appeared. The probability of its continuance hinges entirely on the credibility of human traditions. In the absence of conflicting evidence, the concurrence of testimony from people so widely separated as the ancient Greeks and Egyptians on the one side, and the Central Americans on the other, may in some minds count for a great deal. At any rate it must be admitted that Atlantis has existed as a substantial reality.

AN ENGLISH MECHANIC ON AMERICAN MACHINES.

Dr. John Anderson, C. E., contributes the report on machines and tools for working wood, metal and stone, at the Centennial, to the recently issued volume of reports of the British Commissioners and Judges. As one of the most eminent of English mechanics and engineers, and besides an observer of much acuteness and intelligence, Dr. Anderson is capable of pronouncing a just opinion of our productions—one indeed which Americans will look for with interest and read with respect. Most of Dr. Anderson's report is taken up with descriptions of machines which especially impressed him, and which need not be noted here. He has a straightforward way, however, of telling what he thinks, that enables us to convey pretty clearly the drift of his opinions by a sentence now and then abstracted.

As was the case with most of our foreign mechanical visitors, Dr. Anderson was first struck by our multiplicity of special and labor-saving devices. The invention of these he thinks is our "natural forte and worthy of the old stock probably quickened by the peculiarly favorable circumstances under which they live. It was the display made in this section of the exhibition which most conspicuously brought out the enormous strength of America as a producing power." "No mere words," he says, "can convey an idea of the high standard of excellence of American watch making machinery. Sellers' tools were without a parallel in the history of exhibitions either for extent, money value, or for originality and mechanical perfection." For torsional, tensional, and malleable qualities the samples of American iron and steel "were equal to the best of any country." "The impression is left upon the minds of European visitors, that American competition in machine tools will soon be upon us, but that the competition will not be in regard to price, but rather for high quality and productiveness and the capabilities of doing more work with a given expenditure on labor." The concluding paragraph of the report which is the conclusion drawn from the whole, is suggestive.

"In past times England has been the nursery ground of the manufacturing system, her factories have been visited and her system of cotton and other textile manufactures copied by all nations, but the time seems to have arrived when we shall have to visit America in the same way and for the same purpose, in regard to the production of other things, and there is no time to be lost if we mean to hold our own in the hardware trade of the world, at least in regard to the class of things that are required in large number or quantity. * * When we consider the enormously greater area of the American continent, it is a matter of vast importance, that tools have taken such a hold on the American mind which will influence the civilization of the Western world for ages to come, and will exercise a powerful effect not only on that continent, but on Australia, China, and the world generally: this therefore has a profound significance which can scarcely be overrated."

PROGRESS OF THE MISSISSIPPI JETTY WORKS.

Captain Eads' latest report of progress upon the improvement of the South Pass of the Mississippi river is most gratifying and leaves no question as to the ultimate triumphant success of the entire great work. Careful examinations have been conducted from time to time with the result of showing a steady increase in width and depth of the channels, thus bringing to Captain Eads' theories the strongest confirmation. For two years work has now been going on upon an unused outlet of the vast river. Up to the present time the concentration of the water flowing across the sand bar at the mouth of the Pass by the jetties has created a channel over 200 feet wide and in no place less than 20 feet deep, where only about 8 feet previously existed. The concentration of the water flowing over the shoal in the river at the head of the Pass has likewise created a channel over 400 feet wide, in no portion less than 20 feet deep and 30 feet deep in the center, where before the depth was scarcely 14 feet. During the time in which a portion of the flow into the Pass was interrupted by the works at its head, and while the current consequently slackened, Captain Eads states that a temporary deposit took place in the Pass and between the jetties. But the gradual restoration of the normal flow into the Pass through the new channel at its head has already begun to enlarge the Pass again and, continues the report, "has, since this restored flow commenced, removed from between the jetties within the past three months over

half a million cubic yards of deposit, and given through more than half the length of the jetties a much larger and deeper channel than ever previously existed, the size of which is already throughout more than 2,000 feet, 28 feet by 300 feet, or that required to entitled us to the fifth payment from the United States, while many hundred feet of it exceeds 30 feet by 350 feet."

The reformation of the bar in advance of the jetties, which many engineers believed would occur, is effectually prevented by the gulf current athwart the mouth of the Pass, which deepens the outer slope of the bar and sweeps away any such portion of the discharged sediment as the river current fails to carry to unknown distances seaward. At the head of the Passes the river has a width of over 9,000 feet, and yet is brought under complete control by Captain Eads' works, which are so designed as to allow of the increase or limit of the discharge into the South Pass if hereafter necessary with but little additional outlay. Captain Eads concludes his report and at the same time announces the splendid success which has crowned this application to his genius and ability in the following terms:

"I may add with absolute certainty, that this entire system of works is now so far completed that no financial difficulties can intervene to arrest the processes of nature which are constantly operating to enlarge and perfect the desired channel through them."

AMERICAN REPRESENTATION AT THE FRENCH EXPOSITION.

There has been some doubt expressed recently as to whether the Paris International Exposition would take place in 1878, it being surmised that the unsettled condition of affairs in Europe would render its postponement necessary. Late advices, however, show that there is no basis for this supposition, and that the work of erecting and making ready the buildings is being vigorously prosecuted. The N.Y. *World's* correspondent states that the masonry and brickwork are in place, that the great iron works of Creusot and Fives-Lille are competing in the matter of rapidity of erecting the frames of the structures, and that the French Commissioner General has officially announced the certain completion of all by the spring of next year. All nations with the exception of Germany and the United States, have accepted invitations to participate and have already entered upon the organization of their representative displays. Even Russia and Turkey, despite the war, are to take part.

Germany's refusal to contribute is owing to the unhealed breach between herself and France. Our own failure to make the necessary preparations to ensure the representation of our industries is, as is well known, due to the failure of Congress to attend to the matter before adjournment. It is stated that already large numbers of Americans are in Paris endeavoring to make arrangements as to space, etc., and that on the other hand, the "French are burning with desire to strain a point in favor of Americans by recognizing any body of men, or any individual having a shadow of official authority, but until that person shall appear they are obliged to hold that the United States is non-existent for the purposes of their mighty show."

It seems to us that if this view of affairs is correct a great deal of regret over the so-called negligence of Congress is being wasted over here. Let the representatives of American manufacturers, who "run from the legation to the office of the French Commission and back again without finding anyone to give them a helping hand," help themselves. Let them organize their own commission and apply to the President for official recognition. We do not see that any further formalities are required, at least in the face of the statement quoted in the last paragraph. Then let them or their principals furnish money and invite subscription from every one who is interested in having an American display in the show, and with the funds so raised go ahead. It is getting to be an altogether too prevalent notion in these days of World's Fairs that we cannot get up a respectable display of our productions without an appropriation and a new army of office holders to spend it. Our unfortunate experience at Vienna goes to prove the fallacy of this even if to every thoughtful person the same were not already apparent. It is radically absurd to sit grieving over what Congress did not do, when the way out of the difficulty is perfectly clear, and it is more absurd to wait for the possible action of Congress in granting money when it meets next winter. Even if money appropriated in December would not come too late to secure a proper official organization, in the present state of the national finances, when retrenchment is everywhere being enforced, Congress should not devote a cent to assisting any one or any class of the people to advertise themselves in Paris.

FAST FREIGHT RAILWAY TRAINS.

The subject of moving freight at faster and cheaper rates was one of the principal topics of discussion at the late meeting of the master car builders' association. The competition of water conveyance, together with the general depression of business, makes the demand imperative that there be some method by which freights may be moved at cheaper rates than those now employed. The solution of the problem is one that effects, not only railway companies, but the public at large. Stockholders are interested in a fair percentage for the stock they hold, while the public are more interested in some cheap, yet rapid method of conveying goods and agricultural products to their various points of destination. To those railways that come in direct competition with lake,

river, and canal transportation, the demand is imperative, that to secure returns to stockholders, some energetic action must be taken that will enable them to lower their rates of transportation.

It is claimed by some railroad men, and men, too, who have had long and varied experience in such matters, that it is more economical to run freight trains at a high rate of speed, say twenty-five miles per hour, than to run a train a one half that speed. This will be one great benefit in the competition with the water routes. The advantages claimed for this high speed are, that when a train is once under way less fuel is consumed, and less power is actually expended than when moving at the low rate of speed. In proof of this, experiments were made on the Lake Shore Road. An engine with dynamometer attached was run from Buffalo to Chicago and a record kept the entire distance, both at twenty-five miles per hour and at twelve miles. The fuel was weighed and everything recorded that was thought of value. The result showed that in economy of fuel, the fast speed had the precedence. Resulting from this is the economy of power in moving a train at quick speed, as, after once started, less power is required to keep the train at that speed than if kept running at a low rate of speed, as, at the less rate, the engine is kept under strain twice as long, and during this time a large amount of heat is lost by radiation. With the fast speed, the train hands would be on duty but half as long and a consequent saving of wages paid, and finally but half as many cars would be required to transport the same amount of freight.

With fast speed trains, it will be necessary to look well to track and rolling stock. If the track be high in some places and low in others, causing the train to be tossed from one side to the other, it will result in wear and destruction. Car wheels must be round and not eccentrics. With the movement of the train these defects will be augmented and result in danger and damage. It was said by an official, who was connected with a very important line: "If you car men will give us the control of our trains through some continuous train brake, we will dispense with from one third to one half of the number of cars now in use, we will transfer grain from Chicago to New York in one half the time we now do it in, we will move our trains at less cost to you for repairs, as has been demonstrated by trains running over this line for a series of years at twenty-five miles per hour termed 'immigrant trains.'" He also said, that the repairs on these trains is less per number of cars than in the trains moved at twelve miles per hour.

Surprising as may seem the statements made before the association, the facts of the economy of fast speed freight trains was acquiesced in, but it was thought advisable not to attempt such high rates of speed unless these trains were equipped with suitable train brakes, and the engine and tender provided with steam brakes always ready for application.

Nordenskjöld's Next Expedition.

For Professor Nordenskjöld's expedition, which is to set out from Gothenburg, in Sweden, in June, 1878, a vessel has already been chartered for 150,000 Swedish crowns (about \$25,000). King Oscar has contributed 50,000 crowns from his personal revenue, but the burden of the expense will be borne by the friend and patron of Nordenskjöld, a merchant of Gothenburg named Dickson. The route of the expedition will be from its starting point to the North Cape, thence eastwardly through the Polar Sea to and through Behring's Strait, thence along the eastern and southern coasts of Asia, through the Red Sea, the Suez Canal, and the Mediterranean Sea to the Atlantic Ocean, and return home in the autumn of 1879.

Smoke Screens for Torpedoes.

History is repeating itself again. In his veracious chronicle of New York Mr. Diedrich Knickerbocker says that, when an English ship sailed into the harbor, and arrogantly demanded of the primeval Dutch, the prompt surrender of their possessions, that portion of the phlegmatic population which had settled in Communipaw raised such a cloud of smoke from their huge pipes that the piratical British never discovered their existence in the midst of the dense fog. A similar plan is now proposed for the protection of torpedo boats from the fire of an attacked ship. Hale's rockets are to be provided with smoke balls and these discharged from the launches on igniting envelope both the assaulting craft and that assaulted in such a thick cloud that it will be practically impossible for the latter to use her electric light with any efficacy, or to sight her guns at her concealed antagonists.

American Institute Exhibition.

Our manufacturers are now fully awake in the matter of exhibitions (thanks to the "Centennial," and so far as their limited space is concerned, we are assured the coming exhibition of the American Institute of this city will be of more than usual value and novelty. For information address the General Superintendent.

RECIPE FOR HOG CHOLERA.—Take one teacupful of pulverized copperas and mix with one gallon of salt; and salt the hogs twice a week regularly. This is said to be a sure preventative, and has been known to cure in many instances after the disease has commenced.

PARTIES desiring information in regard to the horse-collar stuffing machine, illustrated in last number, will address Mr. B. F. Grayson, Jr., Luray, Page county, Va.